M09416 ® TTXLI ®

THERMAL TRANSFER / DIRECT THERMAL BAR CODE PRINTER

SERVICE MANUAL

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M09416 ® TTXLI ®
Thermal Transfer Printer

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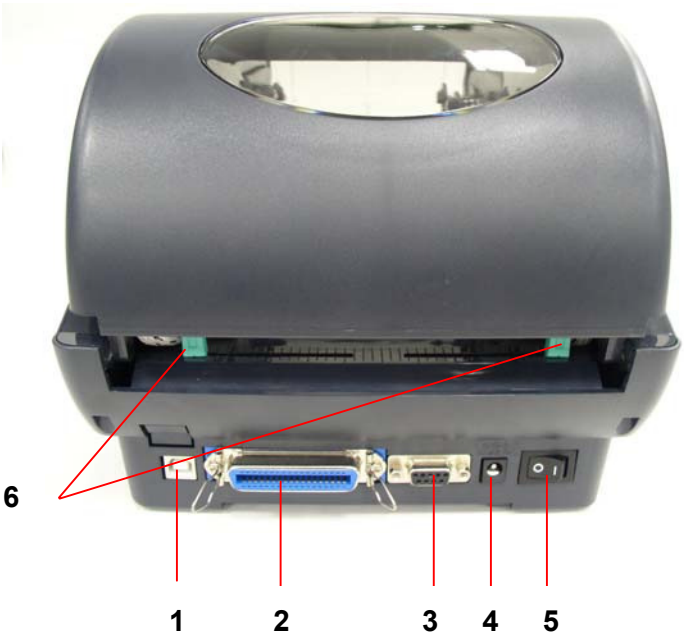
1. FUNDAMENTAL OF THE SYSTEM

1.1. Overview

1.1.1. Front View

Fig. 1.1.1 Front View

1.1.2. Rear View



1. **USB Interface**
2. **Centronics Interface**
3. **RS-232 Interface**
4. **Power Jack**
5. **Power Switch**
6. **Rear Paper Guide**

Fig. 1.1.2 Rear View

1.2. LED

LED Color	Description
Green/ Solid	This illuminates that the power is on and the device is ready to use.
Green/ Flash	This illuminates that the system is downloading data from PC to memory and the printer is paused.
Amber	This illuminates that the system is clearing data from printer.
Red / Solid	This illuminates printer head open, cutter error.
Red / Flash	This illuminates a printing error, such as paper empty, paper jam, ribbon empty, or memory error etc.

1. 3. Button

Feed	● Press the button when the LED is **green**. ■ It feeds the label to the beginning of the next label.
Pause	● Press the feed button during printing ■ The printing job is suspended.
Ribbon Sensor and Gap/Black Mark Sensor Calibration	1. Turn off the power switch. 2. Hold on the button then turn on the power switch. 3 Release the button when LED becomes **red** and blinking. (Any red will do during the 5 blinks). ■ It will calibrate the ribbon sensor and gap/black mark sensor sensitivity. ■ The LED color will be changed as following order：Amber → **red (5 blinks)** → amber (5 blinks) → green (5 blinks) → green/amber (5 blinks) → red/amber (5 blinks) → solid green

Gap/Black Mark Sensor Calibration, Label Length Measurement, Self-Test	1.Turn off the power switch. 2. Hold on the button then turn on the power switch. 3. Release the button when LED becomes **amber** and blinking. (Any amber will do during the 5 blinks). ■ The LED color will be changed as following order. Amber → red (5 blinks) → **amber (5 blinks)** → green (5 blinks) → green/amber (5 blinks) → red/amber (5 blinks) → solid green ■ It calibrates the sensor and measures the label length and prints internal settings.
Printer Initialization	1. Turn off the power switch. 2. Hold on the button then turn on the power switch. 3. Release the button when LED turns **green** after 5 amber blinks. (Any green will do during the 5 blinks). ■ The LED color will be changed as following: Amber → red (5 blinks) → amber (5 blinks) → **green (5 blinks)** → green/amber (5 blinks) → red/amber (5 blinks) → solid green **Note:** **Always do gap/black mark sensor calibration after printer initialization.**
Force Black Mark Sensor Calibration	1. Turn off the power switch. 2. Hold on the button then turn on the power switch. 3. Release the button when LED turns **green/amber** after 5 green blinks. (Any green/amber will do during the 5 blinks). ■ The LED color will be changed as following: Amber → red (5 blinks) → amber (5 blinks) → green (5 blinks) → **green/amber (5 blinks)** → red/amber (5 blinks) → solid green

Force Gap Sensor Calibration	1. Turn off the power switch. 2. Hold on the button then turn on the power switch. 3. Release the button when LED turns **red/amber** after 5 green/amber blinks. (Any red/amber will do during the 5 blinks). ■ The LED color will be changed as following: Amber → red (5 blinks) → amber (5 blinks) → green (5 blinks) → green/amber (5 blinks) → **red/amber (5 blinks)** → solid green

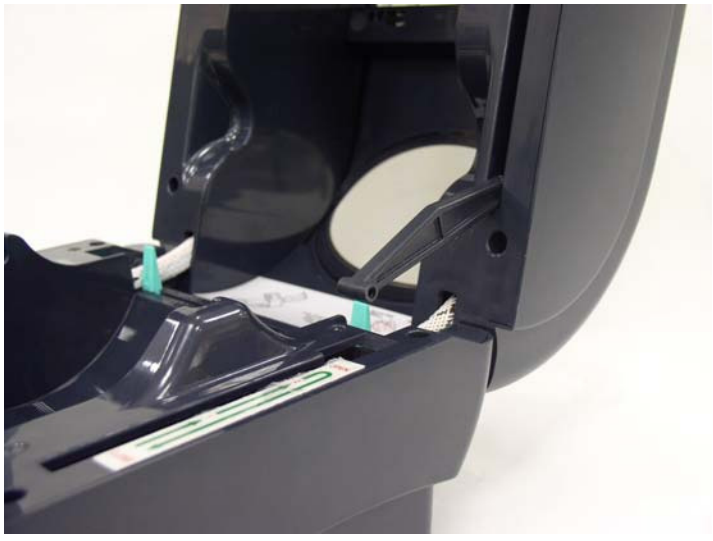
2. REPLACE IMPORTANT PARTS

Please turn off the power switch and unplug the power adapter before replacing parts.

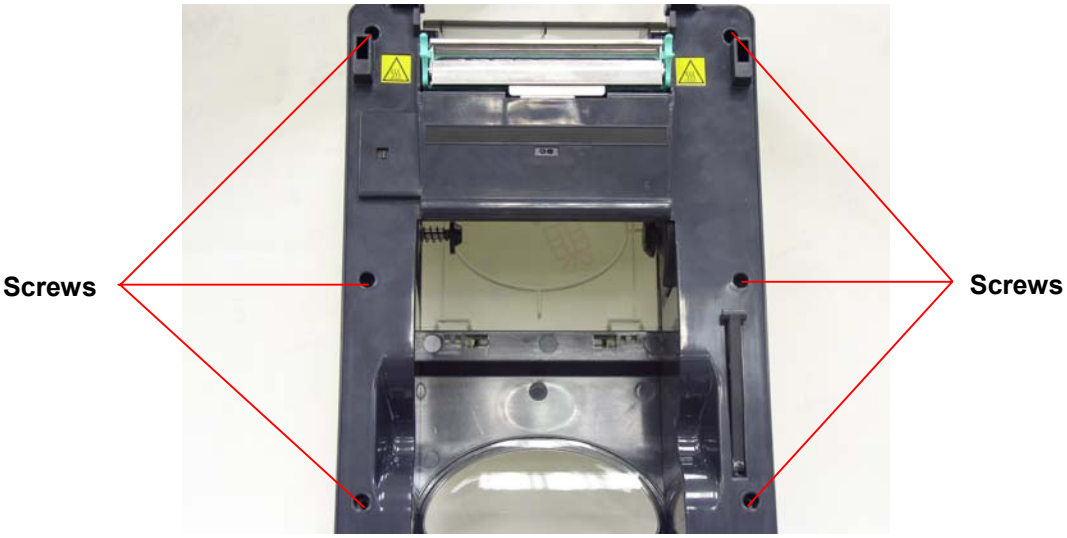
2.1. Replacing Top Cover

1. Open the printer **top cover** by pushing the **top cover open levers to the paper outlet direction**. The **top cover support** will hold the printer **top cover**.

2. Open the top cover to the ultimate open angle. Push the top cover support to the communication port direction to disconnect the separate the lower inner cover and top cover support.



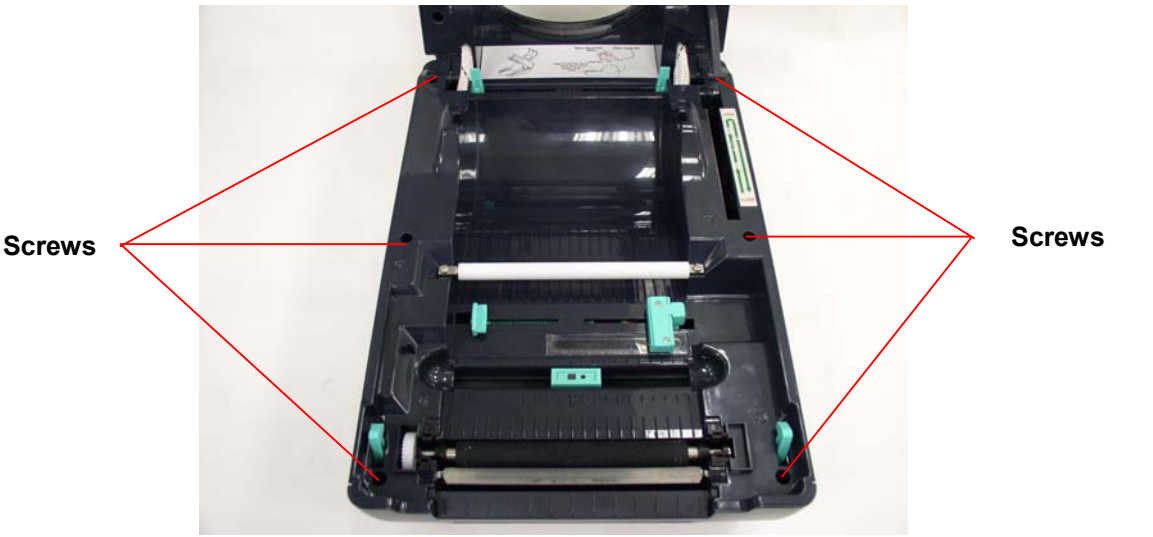
3. Remove the 6 screws in the **top inner cover**.

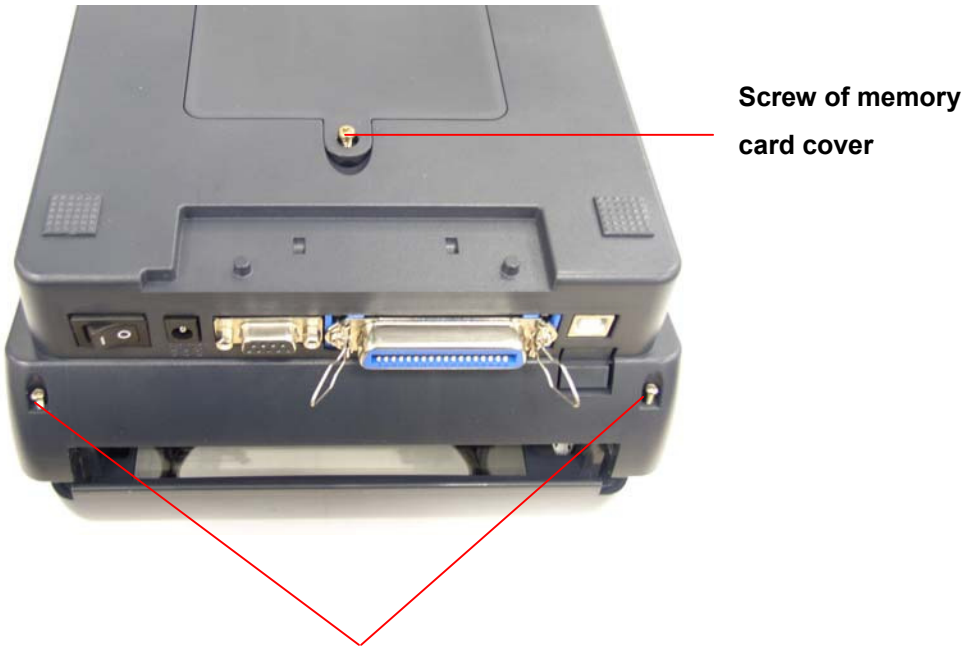


4. Disconnect the harness from the Feed button PCB. Replace the top cover.
5. Reassemble parts in reverse order following the procedures above

2.2. Replacing Top Inner Cover

1. Refer 3.1 to remove the top cover.
2. Remove the 6 screws of lower inner cover. Turn the printer upside down, and remove the 2 screws of hinge holder, 1 screw of memory card cover.





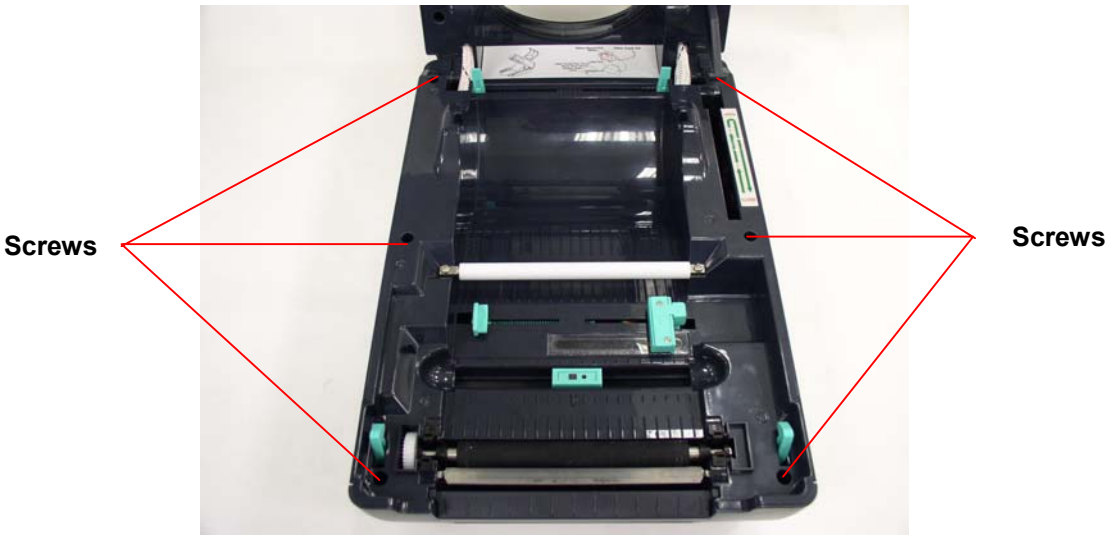
3. Disconnect all the harnesses from Main Board. Lift up the lower inner cover.

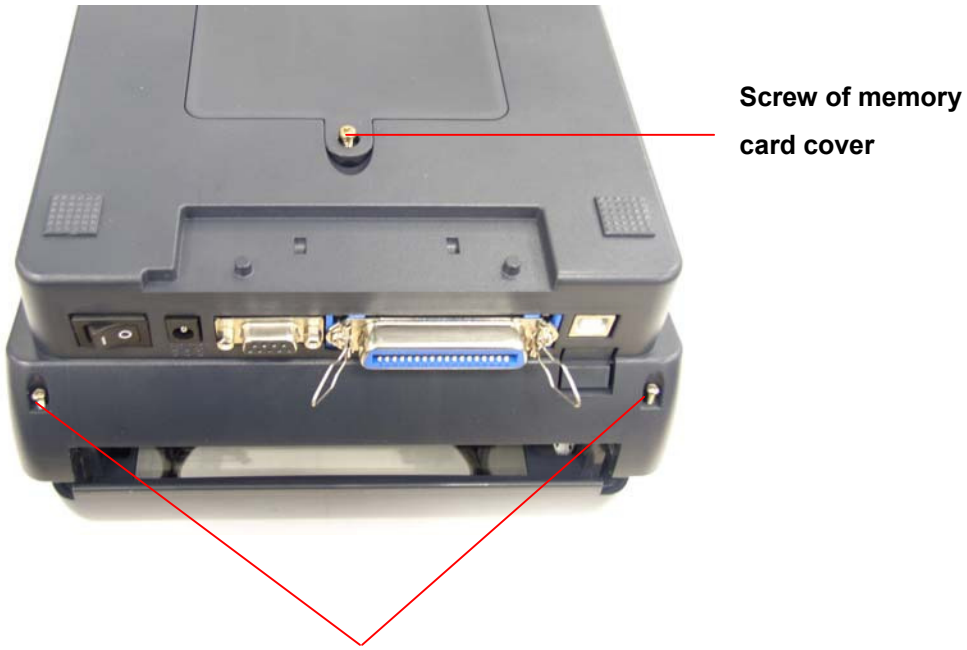
Turn the lower inner cover upside down, and remove the 6 screws of lower inner cover and hinge holders.

4. Replace the top inner cover.
5. Reassemble in reverse order following the procedures above

2.3. Replacing Lower Cover

1. Refer to 3.1 to open the top cover.
2. Remove the 6 screws of lower inner cover. Turn the printer upside down, and remove the 2 screws of hinge holder, 1 screw of memory card cover.





2 screws of hinge holder

3. Disconnect all the harnesses from Main Board. Lift up the lower inner cover.
4. Replace lower cover.

5. Reassemble in reverse order following the procedures above

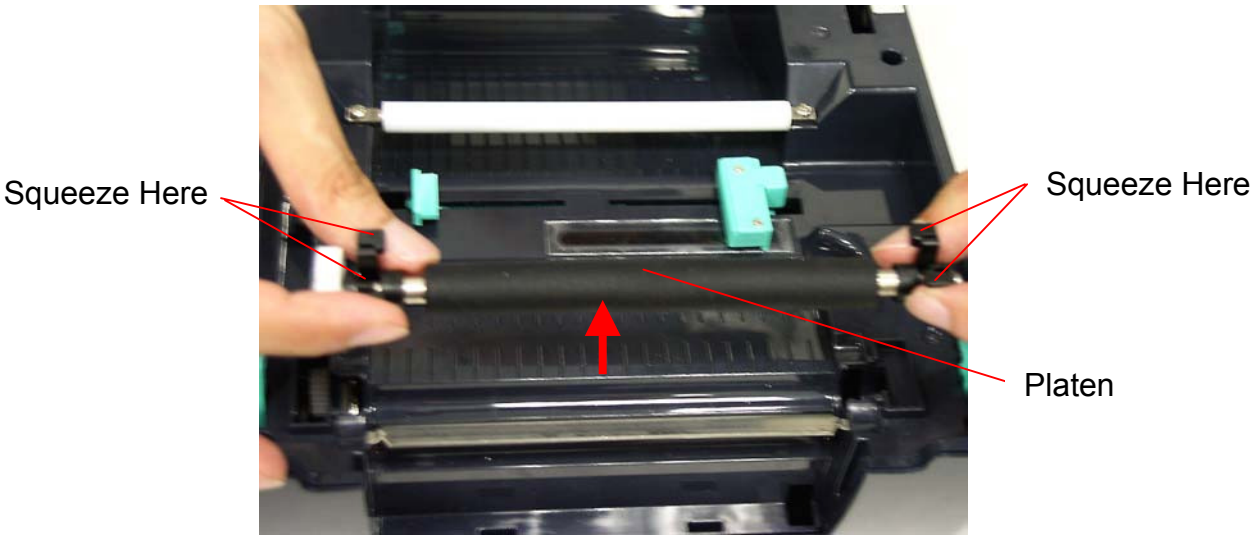
2.4. Replacing Main Board

1. Please refer to 3.3 for disassembling the LOWER COVER and LOWER inner cover.
2. Disconnect all harnesses.
3. Remove 4 screws on the **main board**.

4. Replace the main board/lower inner cover.
5. Reassemble parts in reverse order following the procedures above

2.5. Replacing Platen Assembly

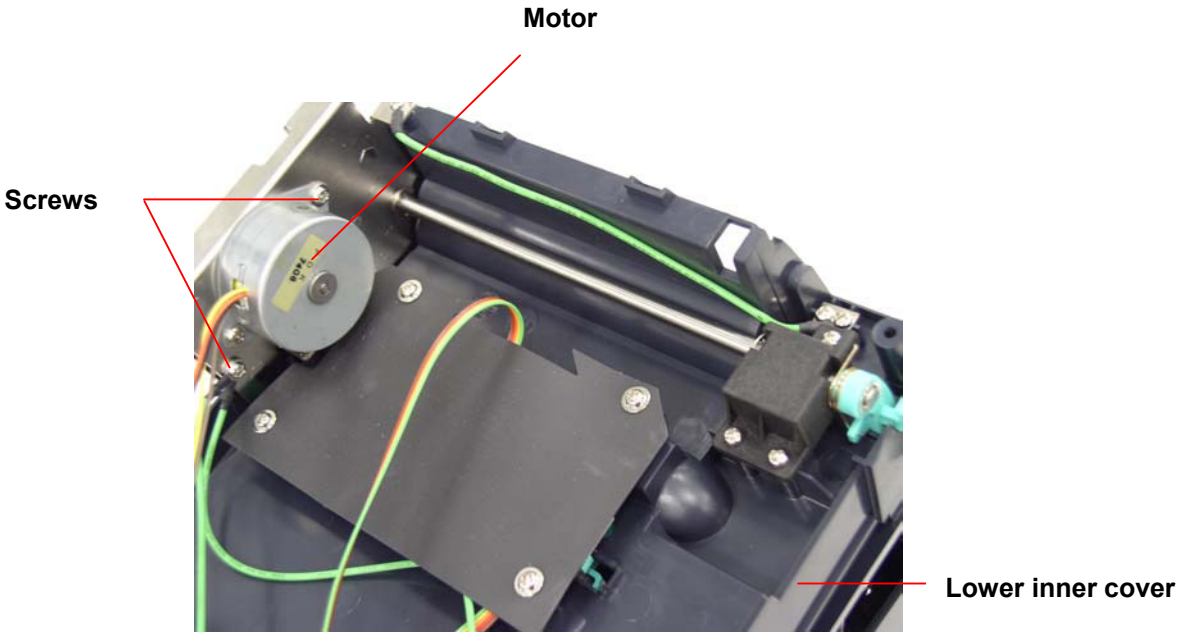
1. Squeeze two sides of **platen assembly** and take it out.



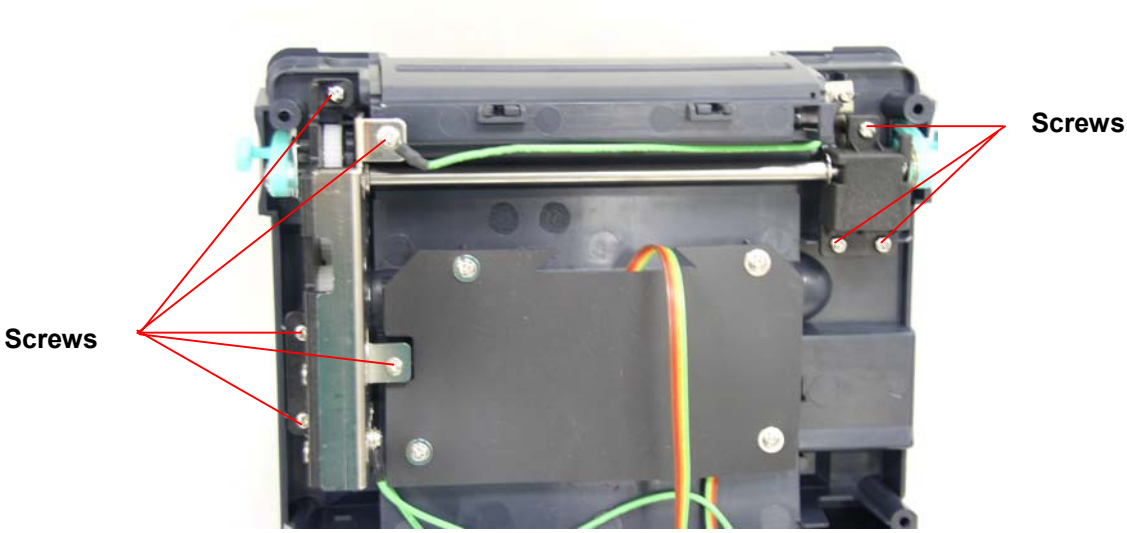
2. Replace a platen.
3. Reassemble it in reverse order following the procedures above

2.6. Replacing the Stepping Motor Bracket / Metal Assembly and Stepping Motor

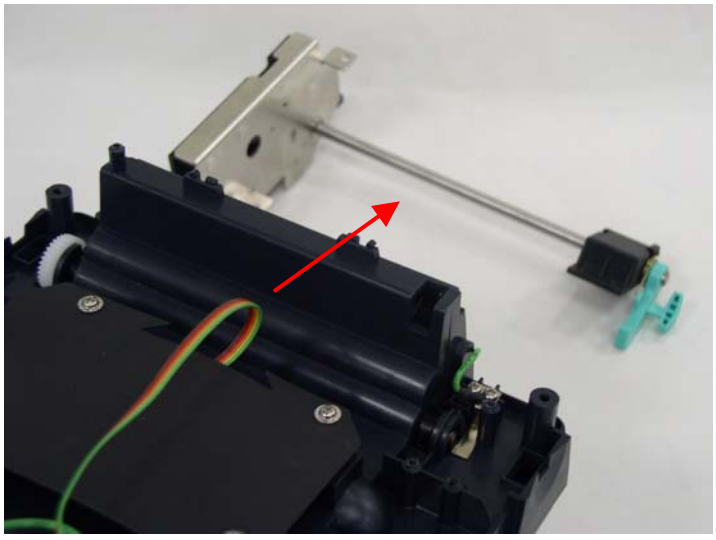
1. Please refer to 3.1 for disassembling the lower cover and lower inner cover.
2. Disconnect all hardness.
3. Turn the lower inner cover upside down.
4. Remove 2 screws that fixed the stepping motor on the bracket
5. Remove the stepping motor.



6. Use a screwdriver to screw off 8 screws of the **stepping motor bracket / metal assembly.**



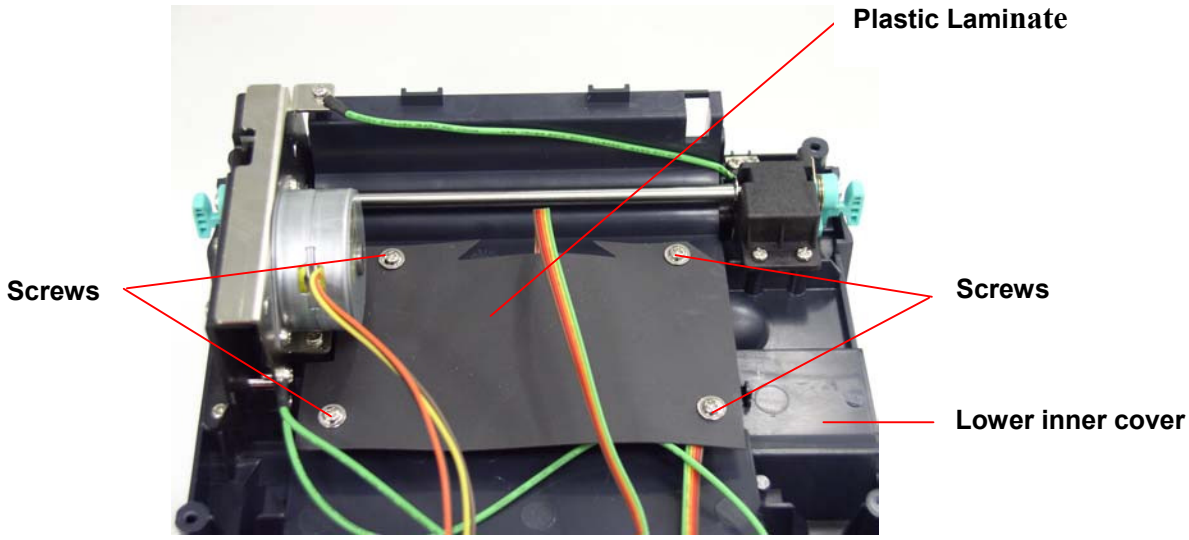
7. Remove the **stepping motor bracket / metal assembly.**



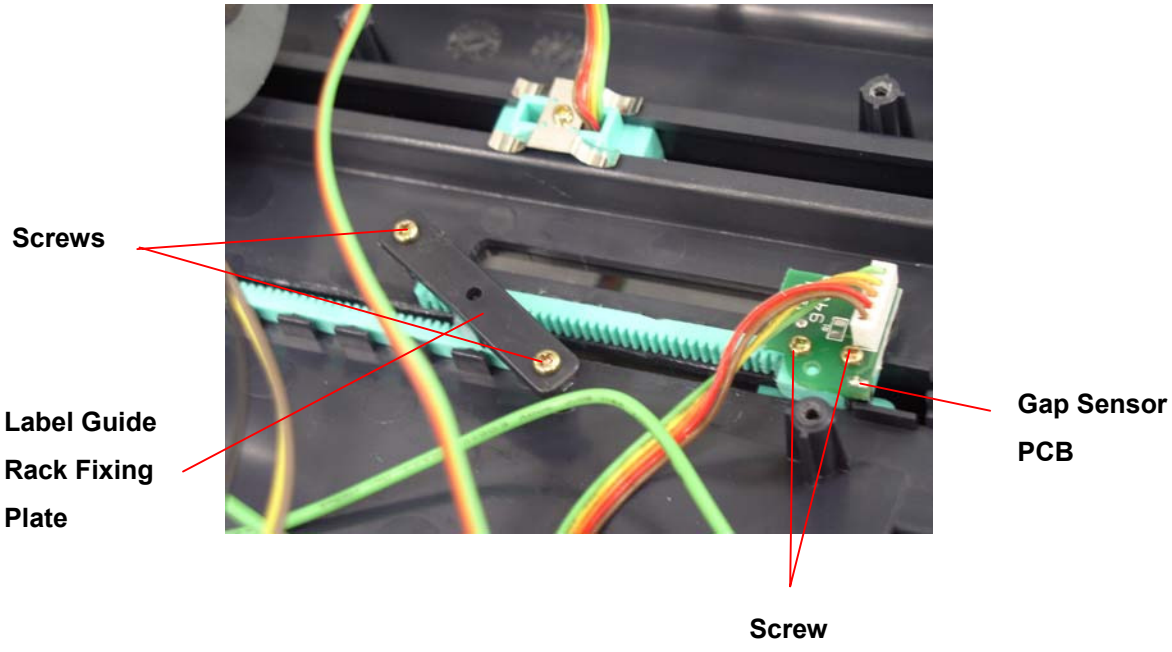
8. Reassemble parts in reverse order following the procedures above

2.7. Replacing Label Guide & Gap Sensor Assembly

1. Please refer to 3.1 for disassembling the lower cover and lower inner cover.
2. Disconnect all the hardness.
3. Turn the lower inner cover upside down.
4. Screws off 4 screws and remove the **plastic laminate**.

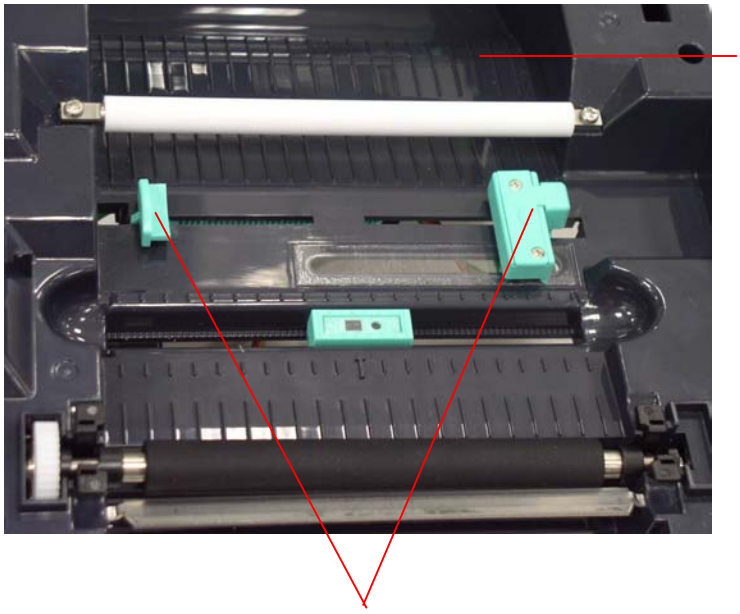


5. Screws off 2 screws to remove the white **label guide rack fixing plate**
6. Remove 2 screws from a gap sensor PCB then remove the **gap sensor PCB**.



7. Turn over the lower inner cover.

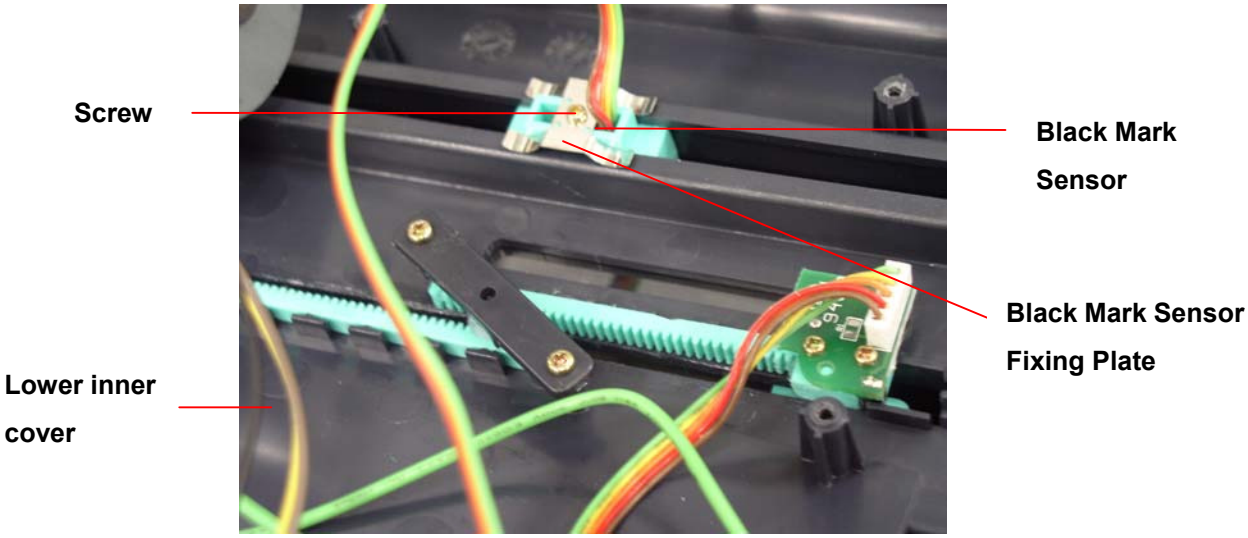
8. Move **right side and left side label guides** to the end of each side. Rotates 90 degrees and pull them out**.**



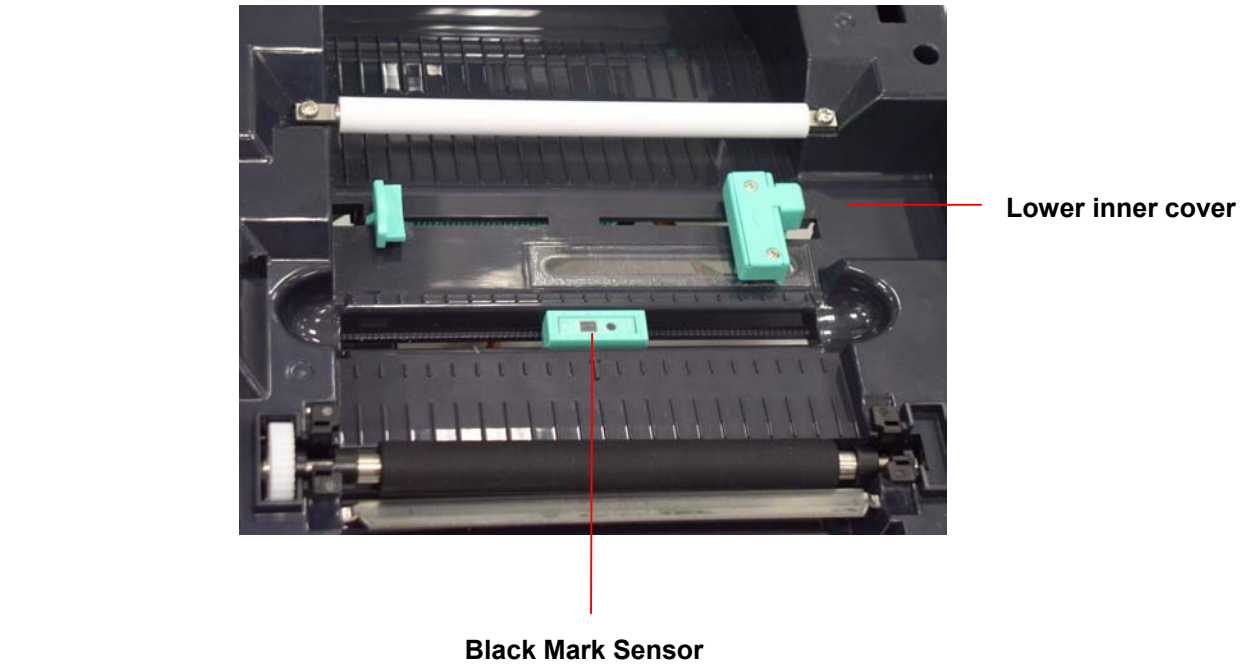
9. Reassemble parts in reverse order following the procedures above.

2.8. Replacing Black Mark Sensor Assembly

1. Please refer to 3.1 for disassembling the lower cover and lower inner cover.
2. Disconnect all hardness.
3. Upside down the lower inner cover. Remove 4 screws and remove the **plastic laminate**.
4. Remove 1 screw from the **black mark sensor**.



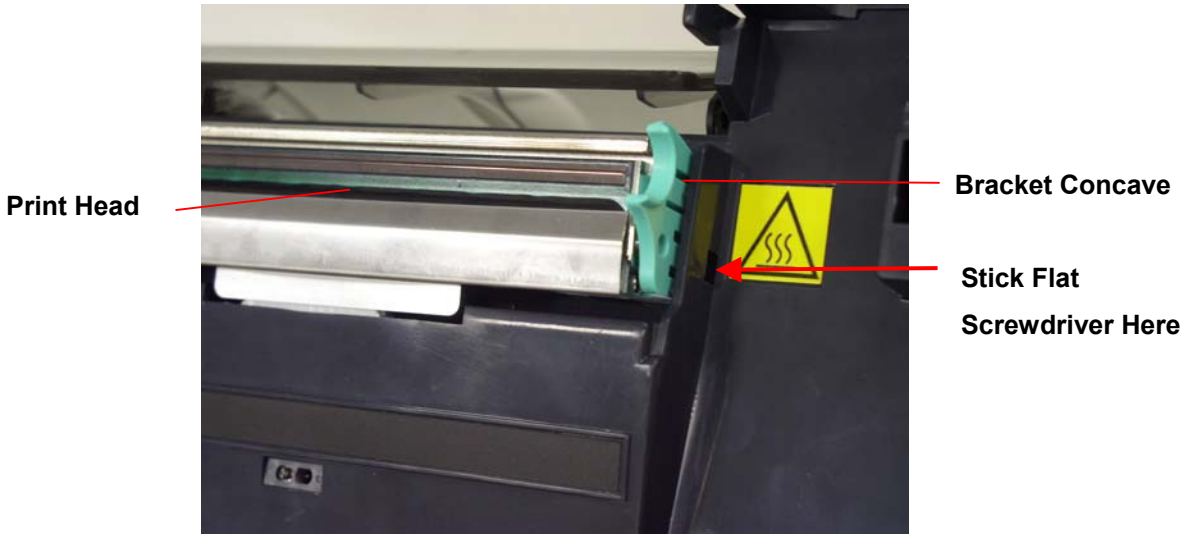
5. Upside down the lower inner cover.
6. Replace the **black mark sensor** assembly.



7. Reassemble parts in reverse order

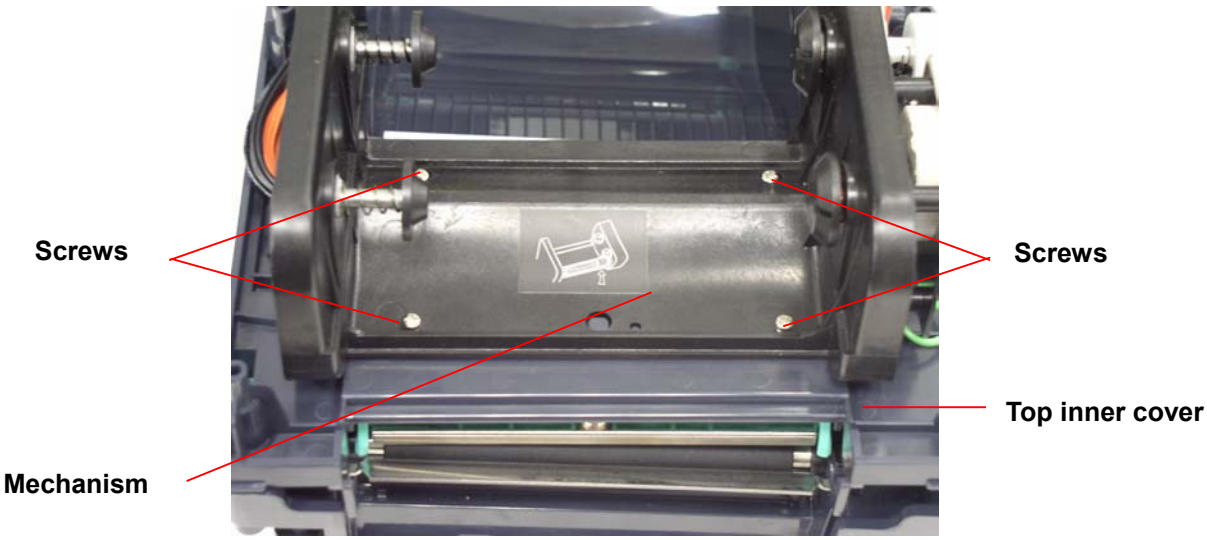
2.9. Replacing Print Head Assembly

1. Press right concave of the print head **bracket** and use a flat screwdriver to stick left side of the printer head bracket then pick up the print head assembly.
2. Disconnect print head harnesses.
3. Reassemble parts in reverse order following the procedures above

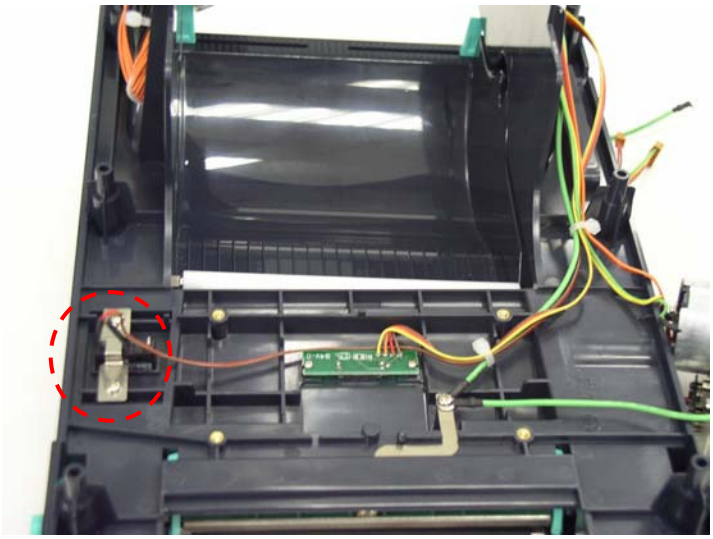


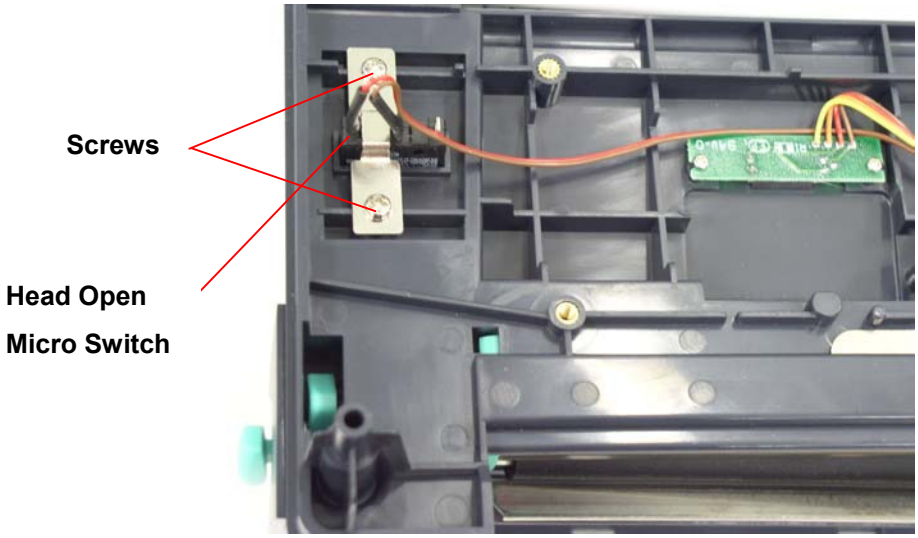
2.10. Replacing Head Open Micro Switch

1. Please refer to 3.1 for disassembling the top cover and top inner cover.
2. Disconnect **ribbon mechanism** by removing 4 screws at top inner cover.



3. Remove 2 screws and remove the **head open micro switch**.

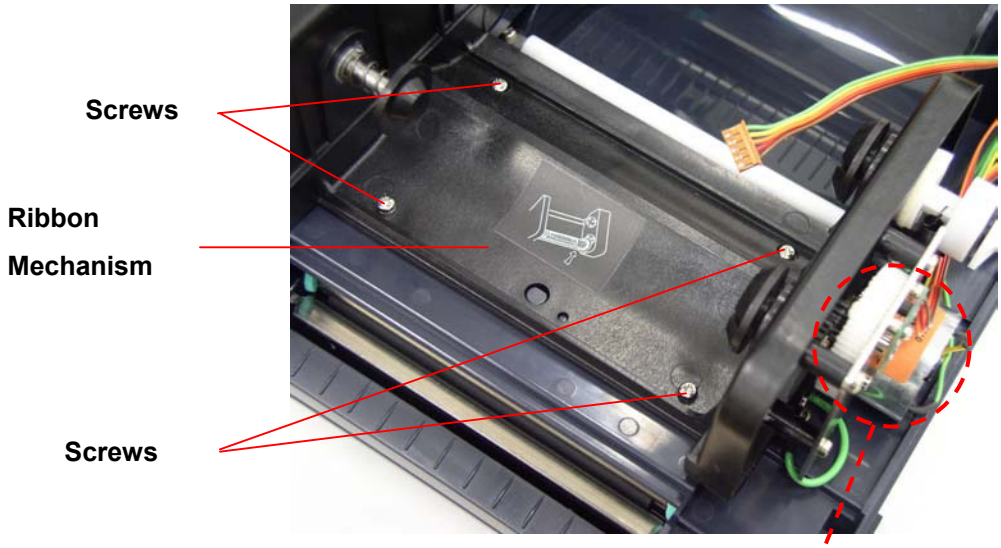


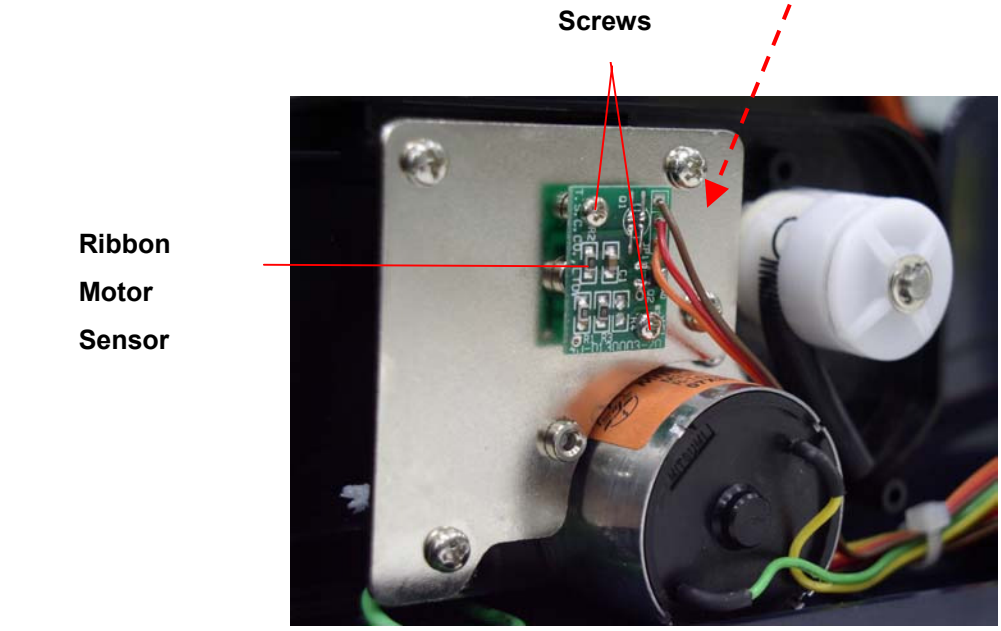


4. Reassemble parts in reverse order

2.11. Replacing Ribbon Motor and Ribbon Sensor

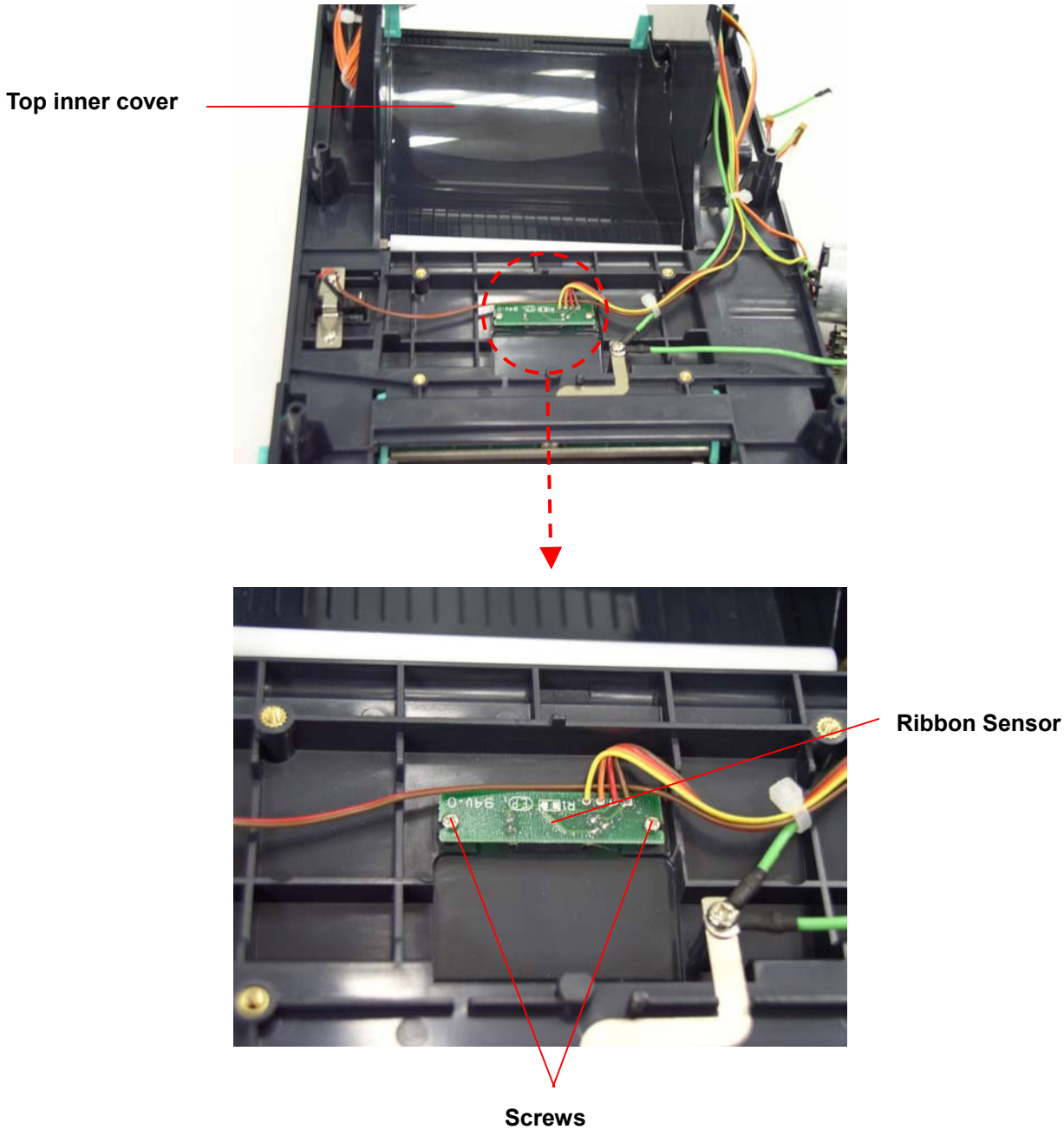
1. Please refer to 3.1 for disassembling the top cover and top inner cover.
2. Disconnect **ribbon mechanism** by removing 4 screws from the top inner cover.
3. Remove 2 screws on the ribbon motor PCB.
4. Replace the **ribbon motor sensor.**





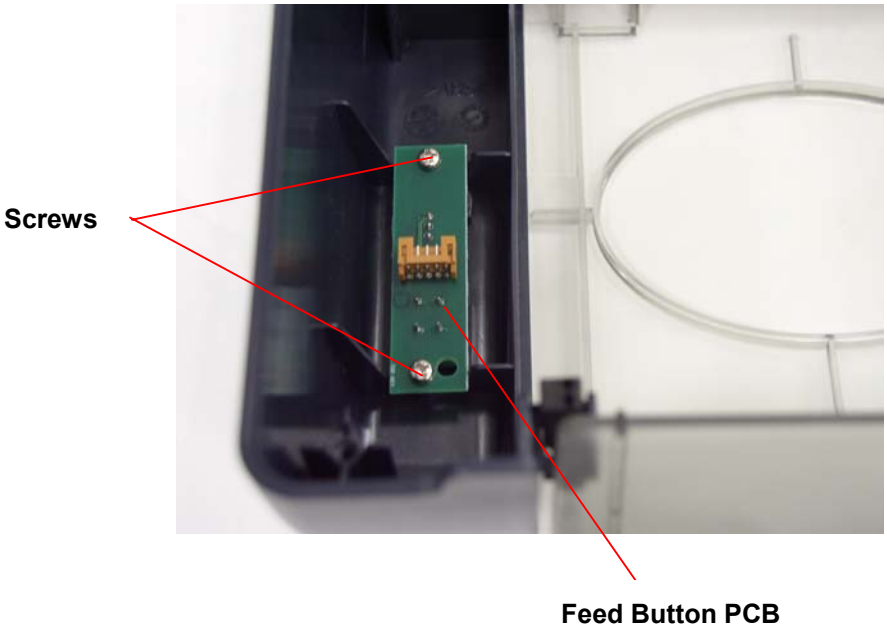
5. Screw off 2 screws from the top inner cover.

6. Replace the **ribbon sensor**.
7. Reassemble parts in reverse order



2.12. Replacing Feed Button and Feed Button PCB

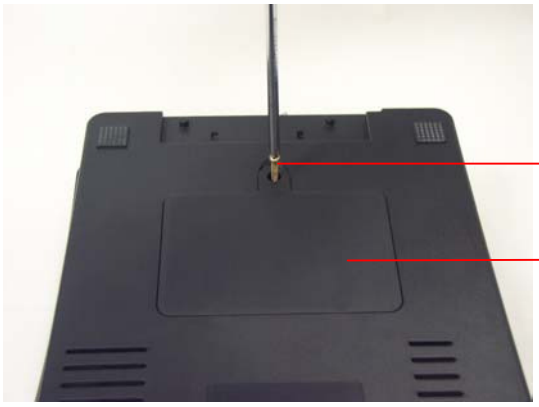
1. Please refer to 3.1 for disassembling the top cover and top inner cover.
2. Turn the top cover upside down.
3. Screw off 2 screws on **feed button PCB** and remove feed button PCB.
4. Use a flat head driver to poke up the **feed button**.



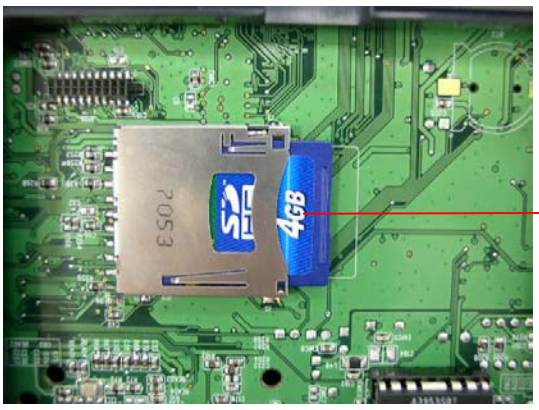
5. Reassemble parts in reverse order

2.13. Install SD Memory Card

1. Turn the printer upside down.
2. Remove the screw that fixes the **memory card cover**.



3. Plug in a SD card on main board.



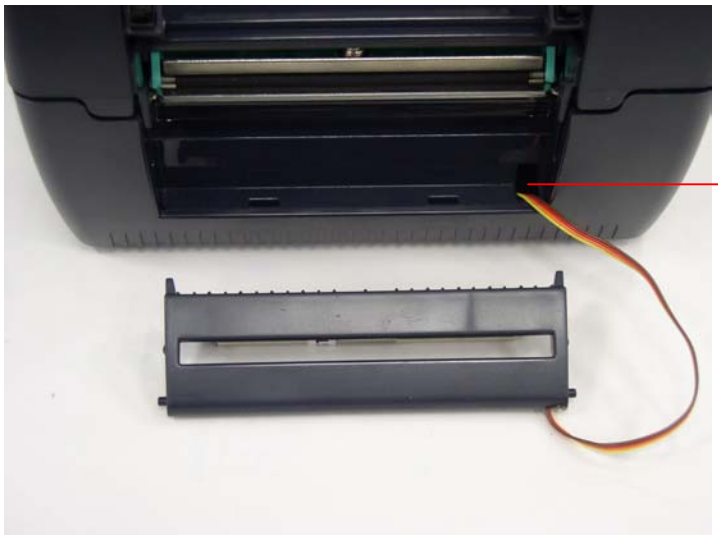
4. Revert the memory card cover.
5. Reassemble parts in reverse order following the procedures above

* Recommended SD card specification.

SD V 1.0, V 1.1	SD V 2.0 (SDHC)
✓ 128MB ✓ 256MB ✓ 512MB ✓ 1GB	✓ 4GB class 6
-Supported DOS FAT file system. -Folders stored on the SD card should be in the 8.3 filename format. -Approved SD card manufacturer: SanDisk, Transcend.	

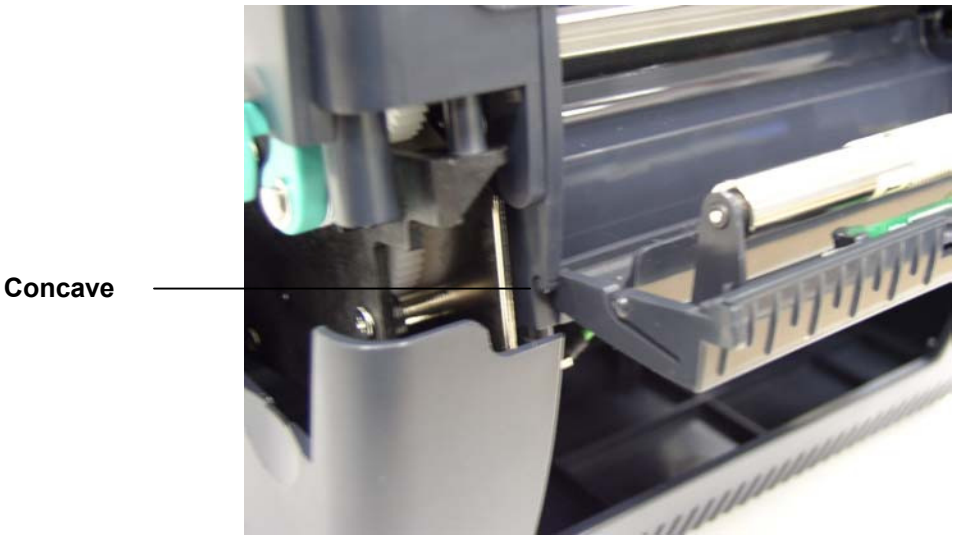
2.14. Install Peel Off Module (Option)

1. Open the top cover.
2. Remove two screws for hinge support and one screw for memory card cover in lower cover.
3. Remove 6 screws on the lower inner cover.
4. Hold the lower cover and lift up the top cover open levers to separate the lower inner cover and the lower cover. (Please refer to section 3.1)
5. Connect the harness of peel-off module through the slot of lower inner cover.



6. Lift up the lower inner cover to gently push peel off panel into the two concaves of lower cover front side.

   Note: Must lift up the lower inner cover first, then, the peel-off module could be installed into the concave of lower inner cover.



7. Connect the harness of peel-off module at JP19 on the main board.
8. Put down the lower inner cover onto lower cover.

9. Push peel off module to lock to the lower inner cover.

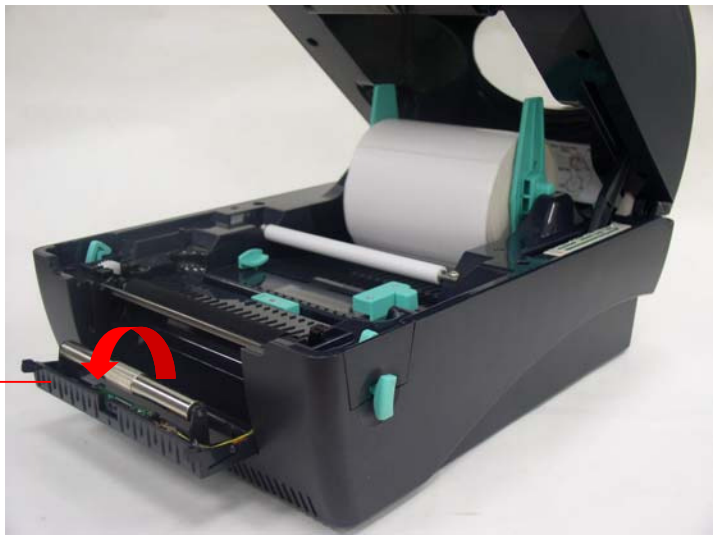
10. Reassemble parts in reverse order following the procedures above

2.15. Loading the Label in Peel-off Mode

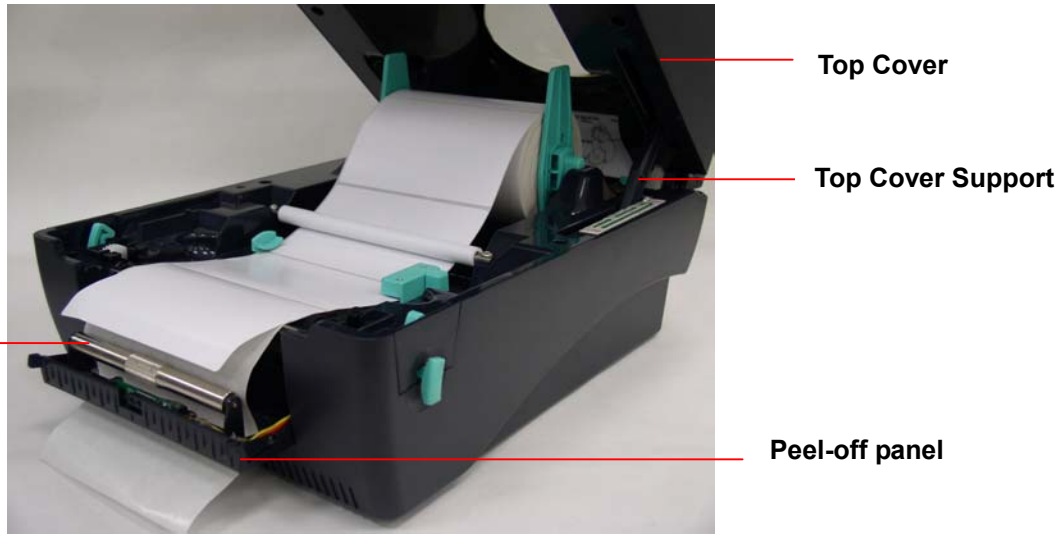
Note: Both thermal paper and plain paper apply for peel-off function but neither PVC nor Vinyl work at peel-off function.

1. Insert a 1” label spindle into a paper roll.
2. Open the printer top cover by pushing forward the top cover open levers. The top cover support will hold the printer top cover.

3. Install the paper roll on the paper roll mount.
4. Open the peel-off panel by pulling it out.



5. Feed the paper, printing side facing up, through the paper guide and pass over the platen.
6. Lead the paper through the backing paper opening, beneath the roller, and tear off one piece of the label.
7. Adjust the paper guide by removing left or right to fit the paper width.



Lead the paper through the backing paper opening, beneath the roller

8. Push the peel-off panel back to the printer.
9. Close the top cover by lifting up the top cover support and close the top cover slowly.
   Note: Pull the label outward tightly after closing the top cover.

2.16. Install Cutter Module (Option)

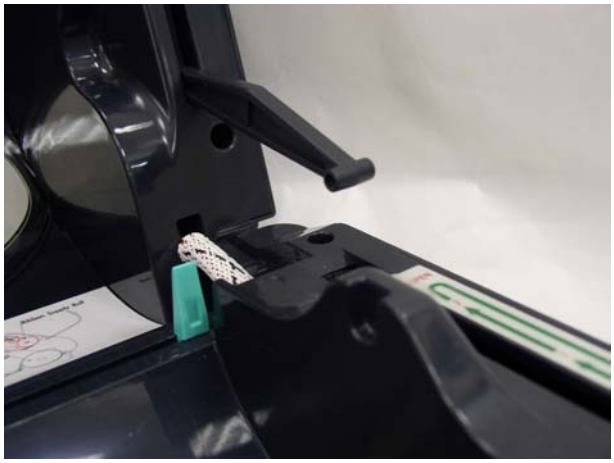
1. Upside down the printer to remove two screws of **hinge holder** in the lower cover.

2. Remove the screw that fixes the **memory card cover**.

3. Plug in the Cutter Driver IC at U30 socket on the main board.

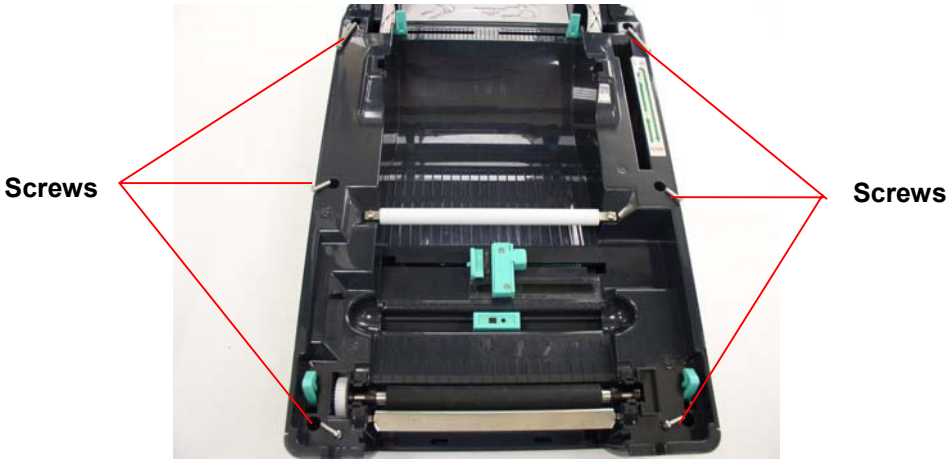
4. Open the printer **top cover** by pushing the **top cover open levers to the paper outlet direction**. The **top cover support** will hold the printer **top cover**.

5. Open the top cover to the ultimate open angle. Push the top cover support to the communication port direction to disconnect the lower inner cover and top cover support.



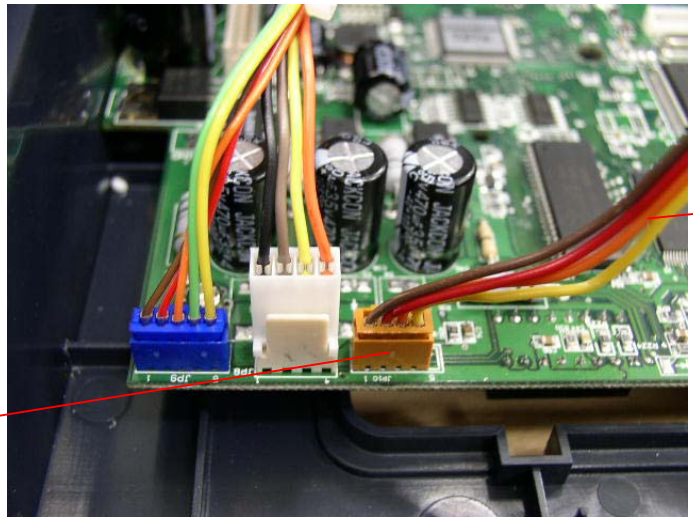
6. Pull up the front panel from the lower cover.

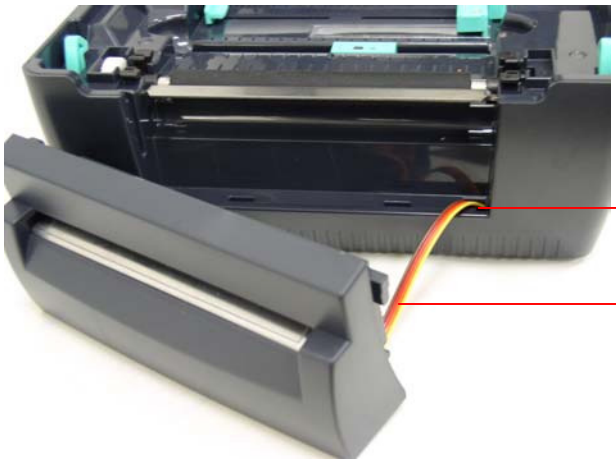
7. Remove the 6 screws in **lower inner cover**.



8. Lift up the lower inner cover from the **Lower Cover**.
9. Install the 4-pin connector of the cutter onto JP38 on the main board. Pull the wire of the 4-pin connector through the slot of lower inner cover front side. Then, put

back the lower inner cover.



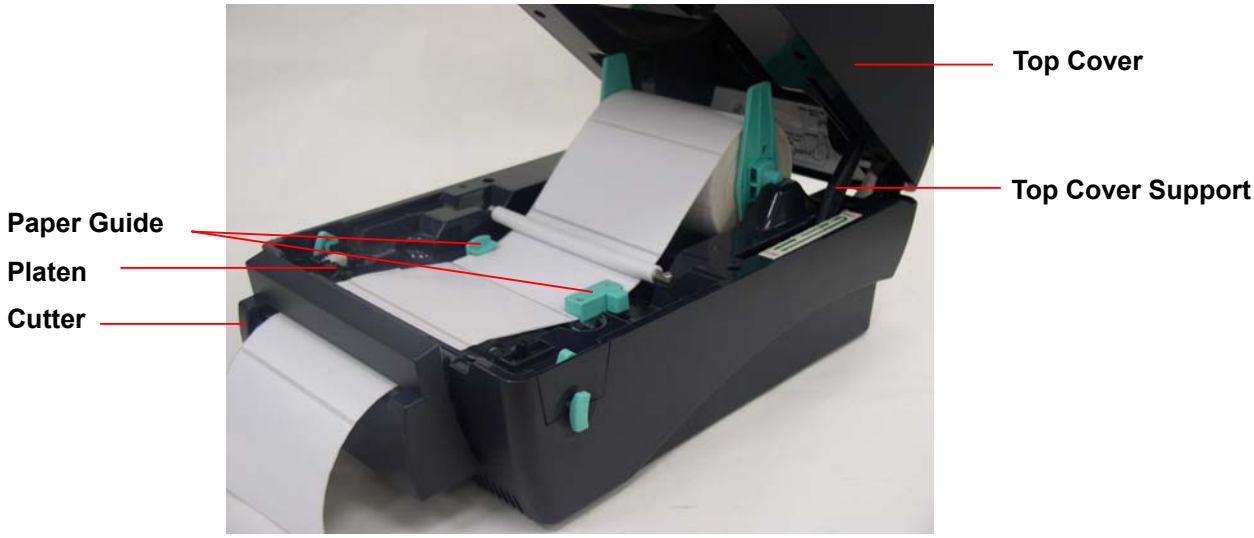


10. Gently push cutter module into the two slots of lower inner cover front side, then push cutter to lock into the lower inner cover.

11. Assemble the memory card cover.
12. Reassemble parts in reverse order following the procedures above

2.17. Loading Label in Cutter Mode

1. Insert a 1” label spindle into a paper roll.
2. Open the printer top.
3. Install a paper roll on the paper roll mount.
4. Feed the paper, printing side face up, through the paper guide and pass over the platen.
5. Lead the paper through the cutter paper opening.
6. Adjust the paper guide by removing left or right to fit the paper width.



Label installation in cutter mode

7. Close the top cover by lifting up the top cover support and close the top cover slowly.

Complete label installation in cutter mode

3. Power on Utilities

There are six power-on utilities to set up and test printer hardware. These utilities are activated by pressing FEED button and by turning on the printer power simultaneously. The utilities are listed as below:

1. Ribbon sensor calibration；Gap/black mark sensor calibration
2. Gap/black mark sensor calibration；Self-test and dump mode
3. Printer initialization
4. Black mark sensor calibration
5. Gap sensor calibration

3.1 Ribbon and Gap/Black Mark Sensor Calibration

Gap/black mark sensor sensitivity should be calibrated at the following conditions:

1. A brand new printer
2. Change label stock.
3. Printer initialization.

Please follow the steps below to calibrate the ribbon and gap/black sensor.

1. Turn off the power switch.
2. Hold on the button then turn on the power switch.
3 Release the button when LED becomes **red** and blinking. (Any red will do during the 5 blinks).
   - It will calibrate the ribbon sensor and gap/black mark sensor sensitivity.
   - The LED color will be changed as following order：
     Amber → **red (5 blinks)** → amber (5 blinks) → green (5 blinks) → green/amber (5 blinks) → red/amber (5 blinks) → solid green

3.2 Gap/Black Mark Calibration；Self-test

While calibrate the gap/black mark sensor, printer will measure the label length, print the internal configuration (self-test). To calibrate gap or black mark sensor, depends on the sensor setting in the last print job.

Please follow the steps below to calibrate the sensor.

1.Turn off the power switch.

2. Hold on the button then turn on the power switch.

3. Release the button when LED becomes **amber** and blinking. (Any amber will do during the 5 blinks).
   - The LED color will be changed as following order.
     Amber → red (5 blinks) → **amber (5 blinks)** → green (5 blinks) → green/amber (5 blinks) → red/amber (5 blinks) → solid green

4. It calibrates the sensor and measures the label length and prints internal settings.

3.3 Printer Initialization

Printer initialization is used to clear DRAM and restore printer settings to defaults. The only one exception is ribbon sensitivity, which will note be restored to default.

Printer initialization is activated by the following procedures.

1. Turn off the power switch.
2. Hold on the button then turn on the power switch.
3. Release the button when LED turns **green** after 5 amber blinks. (Any green will do during the 5 blinks).
   - The LED color will be changed as following:
     Amber → red (5 blinks) → amber (5 blinks) → **green (5 blinks)** →
     green/amber (5 blinks) → red/amber (5 blinks) → solid green

Printer configuration will be restore to defaults as below after initialization.

Parameter	Default setting
Speed	203 dpi: 127 mm/sec (5 ips) 300 dpi: 76 mm/sec (3 ips)
Density	8
Label Width	4” (101.6 mm)
Label Height	4” (101.6 mm)
Sensor Type	Gap sensor
Gap Setting	0.12” (3.0 mm)
Print Direction	0
Reference Point	0,0 (upper left corner)
Offset	0
Tear Mode	On
Peel off Mode	Off
Cutter Mode	Off
Serial Port Settings	9600 bps, none parity, 8 data bits, 1 stop bit
Code Page	850
Country Code	001
Clear Flash Memory	No
IP Address	DHCP

Note：

Always do gap/black mark sensor calibration after printer initialization.

3.4 Black Mark Sensor Calibration

Set black mark sensor as media sensor and calibrate the black mark sensor.
Please follow the steps as below.

1. Turn off the power switch.
2. Hold on the button then turn on the power switch.
3. Release the button when LED turns **green/amber** after 5 green blinks. (Any green/amber will do during the 5 blinks).
   - The LED color will be changed as following:
     Amber → red (5 blinks) → amber (5 blinks) → green (5 blinks) → **green/amber (5 blinks)** → red/amber (5 blinks) → solid green

3.5 Gap Sensor Calibration

Set gap sensor as media sensor and calibrate the gap sensor.
Please follow the steps as below.

1. Turn off the power switch.
2. Hold on the button then turn on the power switch.
3. Release the button when LED turns **red/amber** after 5 green/amber blinks. (Any red/amber will do during the 5 blinks).
   - The LED color will be changed as following:
     Amber → red (5 blinks) → amber (5 blinks) → green (5 blinks) → green/amber (5 blinks) → **red/amber (5 blinks)** → solid green

4. GAP AND BLACK MARK SENSOR SELECTION

Gap Sensor selection

- □ Default setting. No extra action necessary.
- □ If you want to change sensor type from black mark sensor to gap sensor, please do printer initialization (refer to Initialization section).

Black Mark Sensor

- □ Start Nice Label SE software.
- □ Set label side in the software and select black mark sensor as sensor type.
- □ Install label media with black mark or hole for registration.
- □ Print one label to switch sensor from gap to black mark sensor.

Remember; always do sensor calibration after sensor selection (refer to Gap and Black Mark Sensor Calibration section).

5. BIOS Update

If printer BIOS update is required, please do the following steps.
Update the BIOS file and reset the printer.

Update File

1. Make sure the printer is at ready status and the LED is solid **green**.
2. Copy the BIOS file to printer parallel port by the following command at MS-DOS prompt mode.
   C:\>COPY M09416TTXL.NEW /B LPT1 <Enter>
3. During BIOS updating process, the LED will blink **red** and **orange** alternately. When BIOS update is completed, printer will reset automatically and LED will become **solid green**.

6. TROUBLESHOOTING

This section lists the common problems that you may encounter when operating the printer.

1. ***LED does not light on***
   - Turn the power switch on.
   - Measure if there is 24V DC from the power supply output plug. Change the power adaptor if 24V DC is not been measured.
   - Check if U32 (5VDC) and U22 (3.3VDC) of the main board are broken. Change main board if one of them is broken; Or measure if JP 22 (5VDC) and the terminal of R316 close to C139 side (3.3VDC) are correct voltage. Change main board if their voltages are been measured incorrectly.

2. ***The printer is paused***
   - Press the FEED button to resume printing.

3. ***The LED is on red and blinking***

   If the LED is red and blinking, which means that either the label runs out, paper sensor error, ribbon runs out, ribbon sensor error or ribbon rewind encode sensor error. We also can use diagnostic tool to get the printer status through COM port or USB port.

   Label runs out (Out of paper):

   - Load a roll of label and follow the instructions as following and then press the feed button to resume printing.
     1. Insert a 1” label spindle into a paper roll
     2. Open the printer’s top cover by releasing the green top cover open levers located on each side of the printer and lifting the top cover. A top cover support at the rear of the printer will hold the printer top cover open.
     3. Place a roll of paper onto the center of the paper roll mount.
     4. Feed the paper, printing side face up, through the Teflon bar and the label guide and pass over the platen.
     5. Adjust the green center-biased label guides in or out so they are slightly touch the edges of the label backing.
     6. To close the printer top cover, lift the cover slightly and pull the top cover support forward toward the front of the printer. Close the printer top cover slowly and make sure the cover locks latch securely.

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Paper Jam

- Select the correct sensor type.
- Calibrate the sensor by clicking the “Calibrate Sensor” button and select the sensor type for sensor calibration.

Ribbon runs out (out of ribbon):

- Load a roll of ribbon and follow the instructions as following and then press the feed button to resume printing.
  1. Push down on the ribbon access window to unlock and open the cover
  2. Place a paper core on a ribbon rewind spindle.
  3. Mount the ribbon rewind paper core on the front hubs.
  4. Install a ribbon on the ribbon supply spindle.
  5. Mount the ribbon supply spindle on the rear hubs.
  6. Attach the ribbon leader to the ribbon rewind paper core.
  7. Rotate the ribbon rewind paper core until the ribbon leader is thoroughly, firmly encompassed by the black section of the ribbon.
  8. Close the ribbon access window.

Ribbon sensor or ribbon rewind encoder error (out of ribbon):

- Remove the ribbon, close the ribbon mechanism then turn off/on the printer power. The printer will be switched to thermal direct mode automatically.
  If the printer LED is still on red blink, please check the following:
  A. Is a paper core installed on the ribbon rewind spindle?
  B. Is ribbon installed correct along the ribbon path?
  C. Is the ribbon too transparent?
  D. Is the rib of the ribbon spindle is broken?
  E. Is the ribbon gear broken or worn?
  F. Turn off printer power. Rewind the ribbon spindle by hand. Does the spindle rewind smoothly by hand? If the ribbon spindle doesn’t rewind smoothly, please replace the ribbon mechanism.
  G. Is the DC motor broken?
  H. Is the ribbon end sensor broken?
  I. Is the DC motor encoder sensor broken?
  Measure the current of pin2 of JP37. When sensor detects the gap of encoder, it is 5V DC; otherwise it should be 0V DC.
  Check if there is any black lubricant oil filled between gaps, which may cause error.

J. Check the DC motor driver IC (U29) on the main board. If it can function all right, please replace the main board.

Paper sensor error

Please check the following items:

A. Is label installed correctly? Please refer to previous 3. *The LED is on with red blinking – Label runs out to* load a roll of label and then press the FEED button to resume printing.

B. Is there any label stuck on the label sensor? Is there any pre-printed logo on the label? Please refer to 4.3 Printer Initialization to reset the system.

If the pre-printed logo or text influences the auto gap calibration function, please calibrate the gap sensor with proper sensitivity setting by try and error method.

Example:

C:\>COPY CON LPT1 <Enter>
SET GAP 1 <Ctrl> <Z>

Main board, gap sensor or black sensor failure.

- If you confirm the main board is good, Please change the gap sensor receiver first, because the receiver sensor failure rate is higher then the transmitter sensor.

4. ***The printer setting runs error.***

Printer setting runs error:

Refer to 4.3 Initialization to reset the system.

5. ***Continuous feeding labels***

- The printer setting may go wrong. Please do “Printer Initialization” and “Gap and Black Mark Sensor Calibration”. (Refer to 4.2 and 4.3).

6. ***No print on the label***

- Is the label or ribbon loaded correctly? Refer to No, 3 Label runs out and Ribbon runs out to load the paper or to load the ribbon.
- Does the ribbon run out?

- Is the thermal head connector connected?
- Is the thermal head broken? Check it by printer self-test printout.
- Is main PCB U14, U15, Q1 or Q2 broken?

7. ***Printer does not print.***

Printed by enclosed Nicelabel

- This may be driver conflict problem. Please remove all the drivers in the printer folder and then re-install the driver for your printer.

Printed by printer command (other error).

- This problem is caused by incorrect syntax commands. This printer will ignore incorrect syntax commands. Please set the printer to the dump mode and make sure the printed command is identical to the commands sent from the application software.
- The printer serial port setting is not correspondent to the PC's setting Please do the configuration by the following commands.

C:\>COPY CON LPT1 <Enter>
SET COM1 96,N,8,1 <Enter>
<Ctrl>Z<Enter>
C:\>

8. ***Poor print quality***

- The dust or glue from label may stick onto the print head. Wipe the thermal print head by the soft cloth soaked with Ethanol.
- Adjust the print density setting***.***
- Ribbon and paper media are not compatible.
- If this problem happens after changing a new print head module, adjust the print head's heater line position by re-assembling print head module.

9. ***Stepping motor does not feed label***

- Is stepping motor function abnormal?.
- Check if U18, and U19 (3717 driver IC) of main board are broken?

10. ***LED keeps at solid amber.***

- Is switching power broken?
- Is main board broken? Please replace a new main board.
- Try to update the firmware on line. Press the FEED and power on the printer at same time. Press the FEED again while the first green LED is on. Finally, transmit the firmware program to the printer from PC.

11. ***Cutter functions abnormally.***

Cutter is not activated (other error)

At first, check if cutter is broken or the main PCB is damaged. If it still has problem after changing a new cutter, perhaps the U30 (driver IC), U28 IC or U34 on the main board was broken. Otherwise, check if the pin 28 of U2 (CPU) is good.

12. ***Black mark can't be detected properly (out of paper or paper jam)***

- Please check if the position of the black mark on label is correspondent with black mark sensor.
- Is the width of black mark on label too thin to be detected? The recommended black mark width is wider than 12 mm.

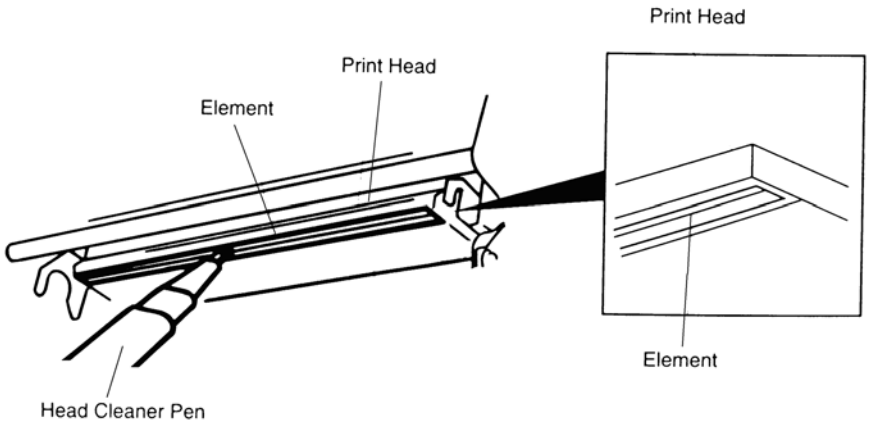
7. MAINTENANCE

This session presents the clean tools and methods to maintain your printer.

1. Please use one of following material to clean the printer.

- Cotton swab (Head cleaner pen)
- Lint-free cloth
- Vacuum / Blower brush
- 100% ethanol

2. The cleaning process is described as following

<table>
<tr><th>Printer Part</th><th>Method</th><th>Interval</th></tr>
<tr><td rowspan="2">Print Head</td><td>1. Always turn off the printer before cleaning the print head.
2. Allow the print head to cool for a minimum of one minute.
3. Use a cotton swab (Head cleaner pen) and 100% ethanol to clean the print head surface.</td><td>Clean the print head when changing a new label roll</td></tr>
<tr><td colspan="2"> 
</td></tr>
<tr><td>Platen Roller</td><td>1. Turn the power off.
2. Rotate the platen roller and wipe it thoroughly with 100% ethanol and a cotton swab, or lint-free cloth.</td><td>Clean the platen roller when changing a new label roll</td></tr>
<tr><td>Tear Bar/Peel Bar</td><td>Use the lint-free cloth with 100% ethanol to wipe it.</td><td>As needed</td></tr>
<tr><td>Sensor</td><td>Compressed air or vacuum</td><td>Monthly</td></tr>
</table>

Exterior	Wipe it with water-dampened cloth	As needed
Interior	Brush or vacuum	As needed

Note:

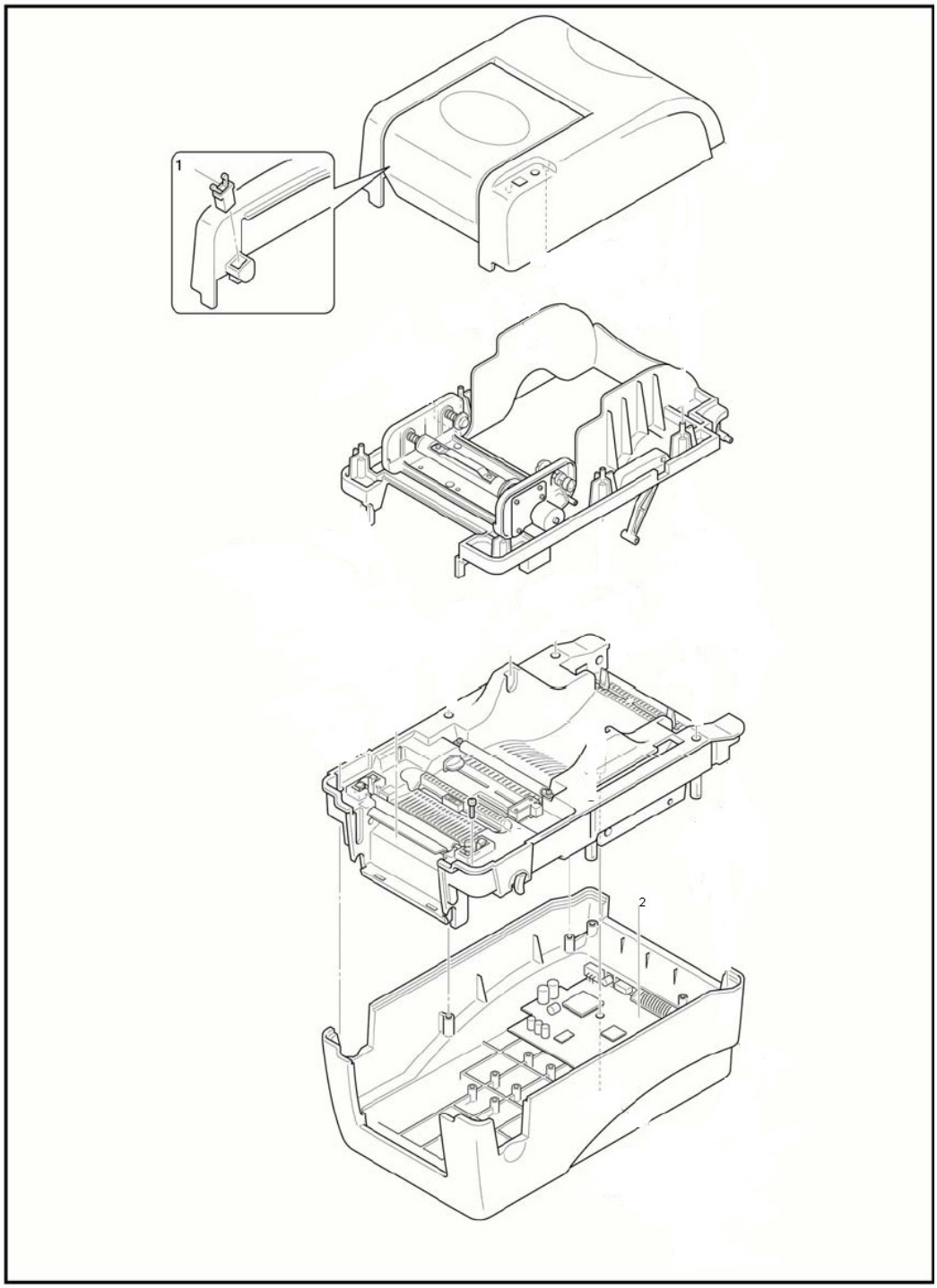
- Do not touch printer head by hand. If you touch it careless, please use ethanol to clean it.
- Please use 100% Ethanol. DO NOT use medical alcohol, which may damage the printer head.
- Regularly clean the print head and supply sensors once change a new ribbon to keep printer performance and extend printer life.

8. PARTS LIST

8.1 Cover

Item	Part No.	Description	Remark	Spare Parts
10	36-0250003-00LF	Latch for ribbon access window	2 pcs	
13	98-0250154-00LF	MAIN BOARD ASS'Y		
	98-0250154-01LF	MAIN BOARD ASS'Y (Main Board + On board internal print server)		

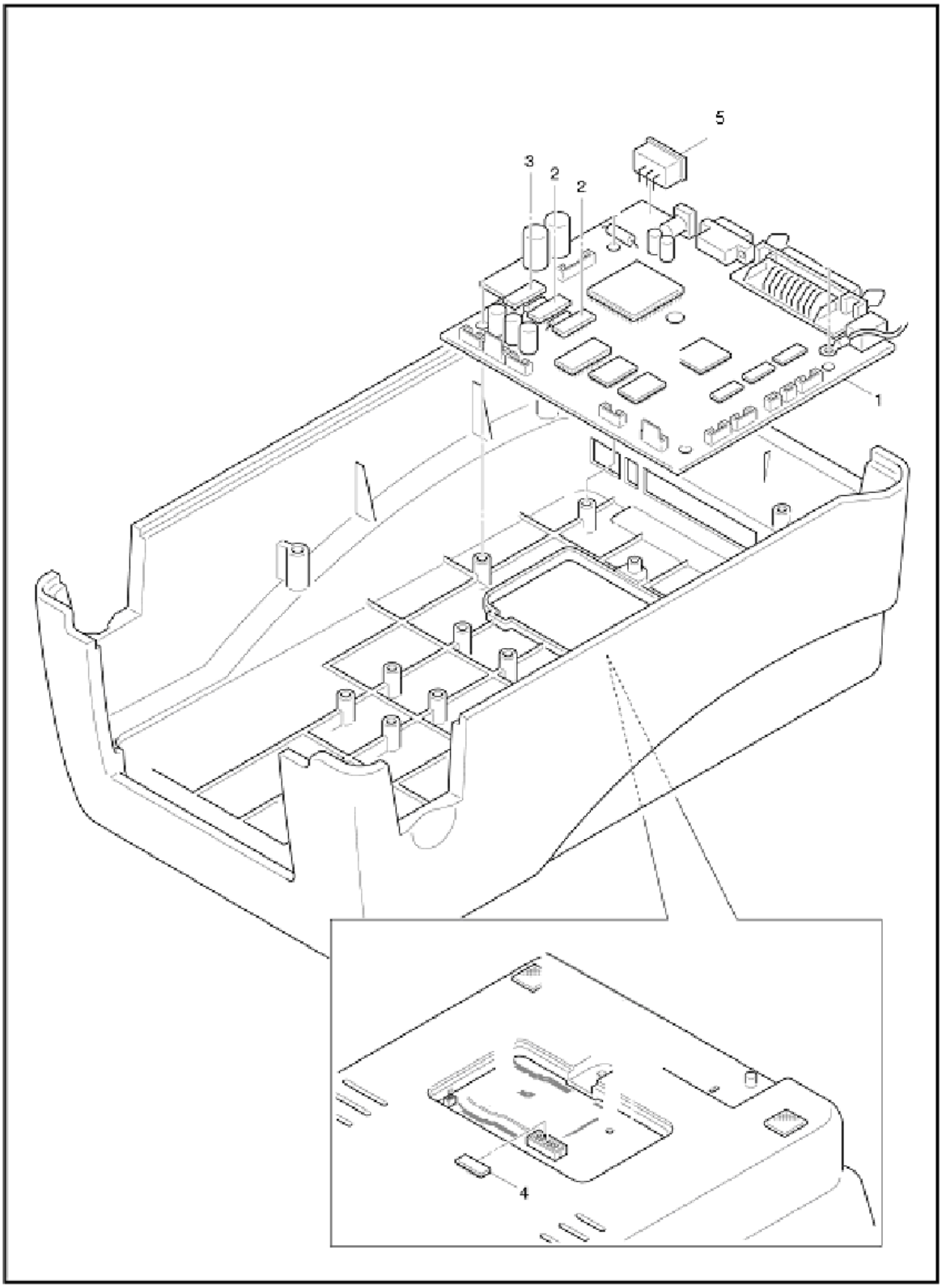
8.2 Cover drawing



8.3 Main Board

Item	Part No.	Description	Remark	Spare Parts
1	98-0250154-00LF	MAIN BOARD ASS'Y		
	98-0250154-01LF	MAIN BOARD ASS'Y (Main Board + On board internal print server)		
2	80-PBL3717-00LF	Driver IC (for stepping motor)	U18,U19,	
3	80-PBL3717-00LF	Driver IC (for DC motor)	U29	
4	80-A3953SB-00LF	Cutter driver IC A3953SB (RoHS)	U30 Option	
5	63-04PSS01-00LF	Power switch		

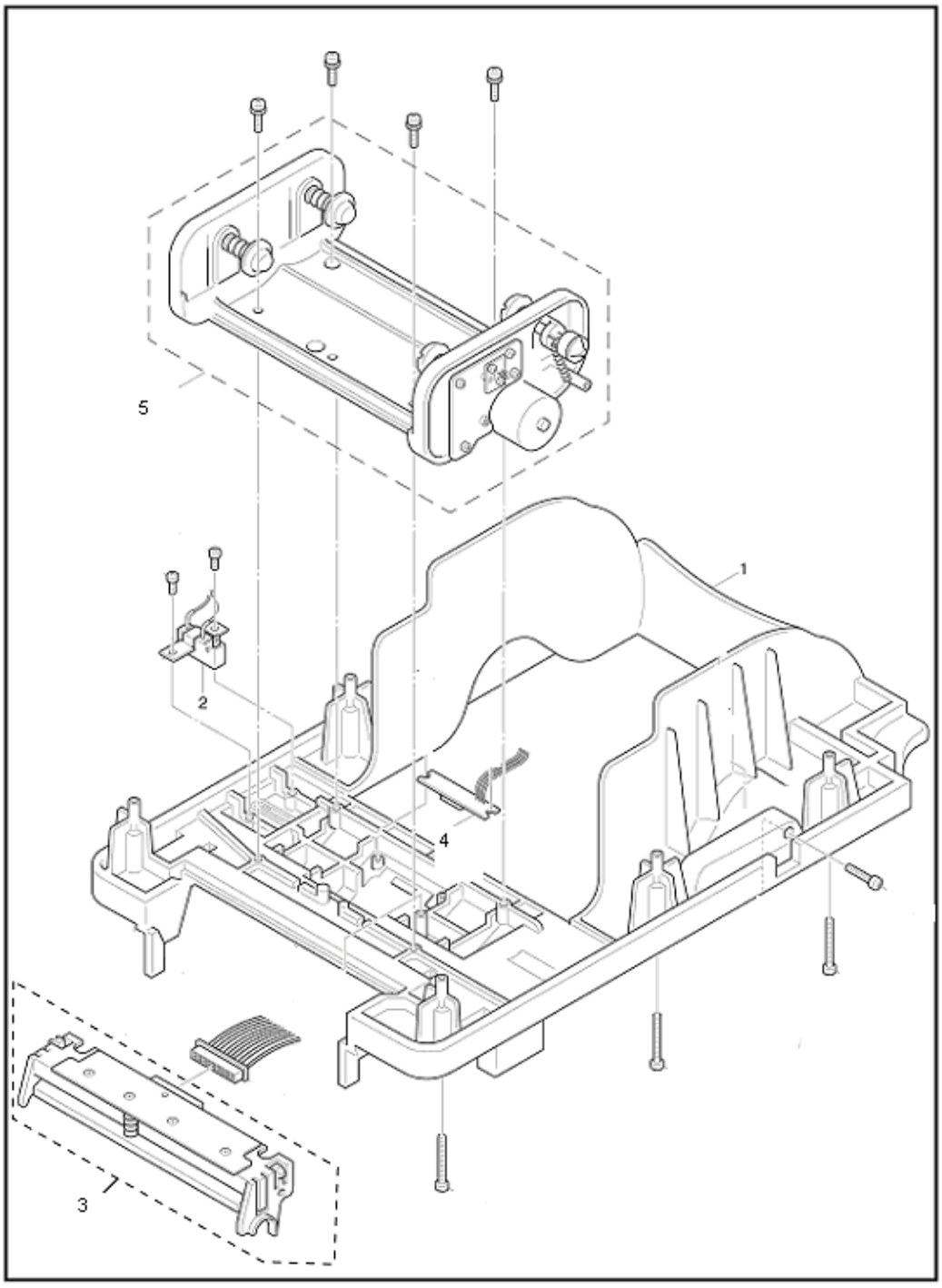
8.4 Main Board drawing



8.5 Top Inner Cover

Item	Part No.	Description	Remark	Spare Parts
1	98-0250119-00LF	TOP INNER COVER ASS'Y Includes 30-0250004-A2LF*1 Top inner cover 30-0250023-94LF *1 Top cover support, 37-1503012-34LF *1 Screw for top cover support (M3x12), 37-4000030-04LF *1 Nut for top cover support (M3), 32-0250013-00LF *1 TPH ground plate, 37-1403006-34LF *1 Screw for TPH ground plate (TP3x6) 36-0250012-00LF *1 Media loading instruction label 36-0500011-00LF *2 High temp.warning label 36-0250010-10LF *1 Non-reflective label 36-0500014-00LF *3 Adhesive backed mount 36-0130043-00LF *2 Cable tie	1set	
2	98-0250019-10LF	Head open micro switch ass'y		
3	98-0250133-00LF	TPH module ass'y for 203 DPI		
	98-0270033-00LF	TPH module ass'y for 300 DPI		
4	98-0250020-10LF	Ribbon end sensor PCB ass'y		
5	98-0250004-10LF	Ribbon Base ass'y / Ribbon near end sensor PCB		

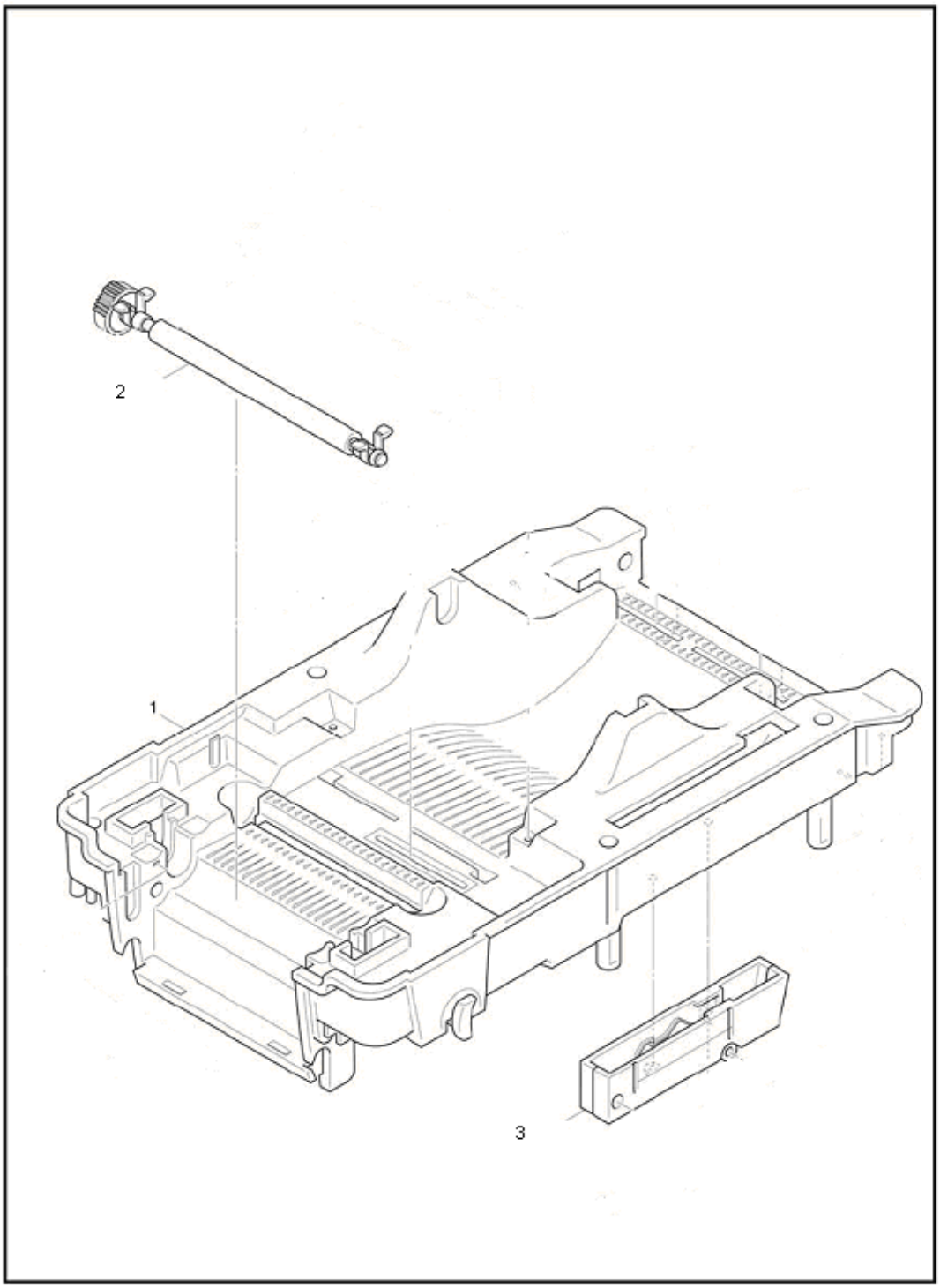
8.6 Top Inner Cover drawing



8.7 Lower Inner Cover

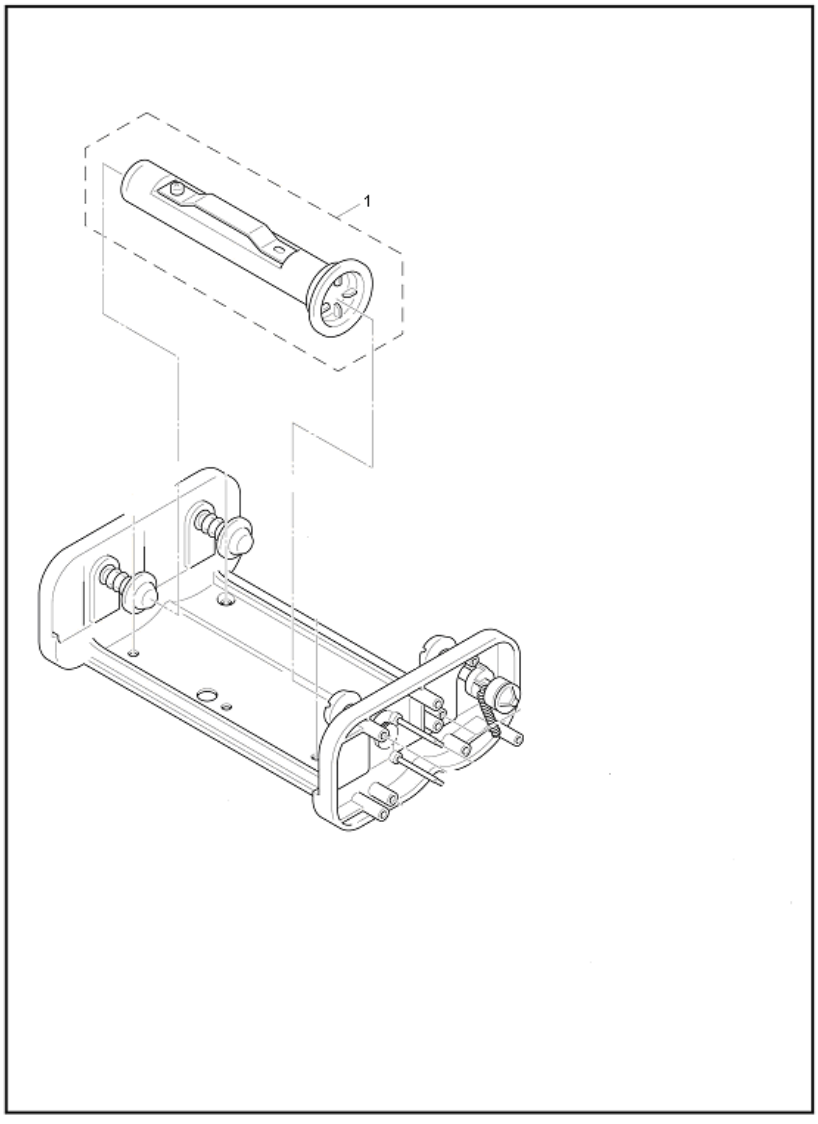
Item	Part No.	Description	Remark	Spare Parts
1	98-0250163-00LF	Lower inner cover ass'y Includes 30-0250003-82LF Lower inner cover*1 36-0250016-00LF Top cover operation name plate*1 36-0130043-00LF Cable tie*2 36-0500014-00LF Adhesive backed mount*2 36-0250008-00LF Transparent plastic sensor cover*1		
2	98-0250115-00LF	Platen ass'y for 203 dpi		
	98-0500009-00LF	Platen ass'y for 300 dpi		
3	98-0250066-00LF	Top cover support damper module ass'y		

8.8 Lower Inner Cover drawing



8.9 Ribbon Mechanism Assembly

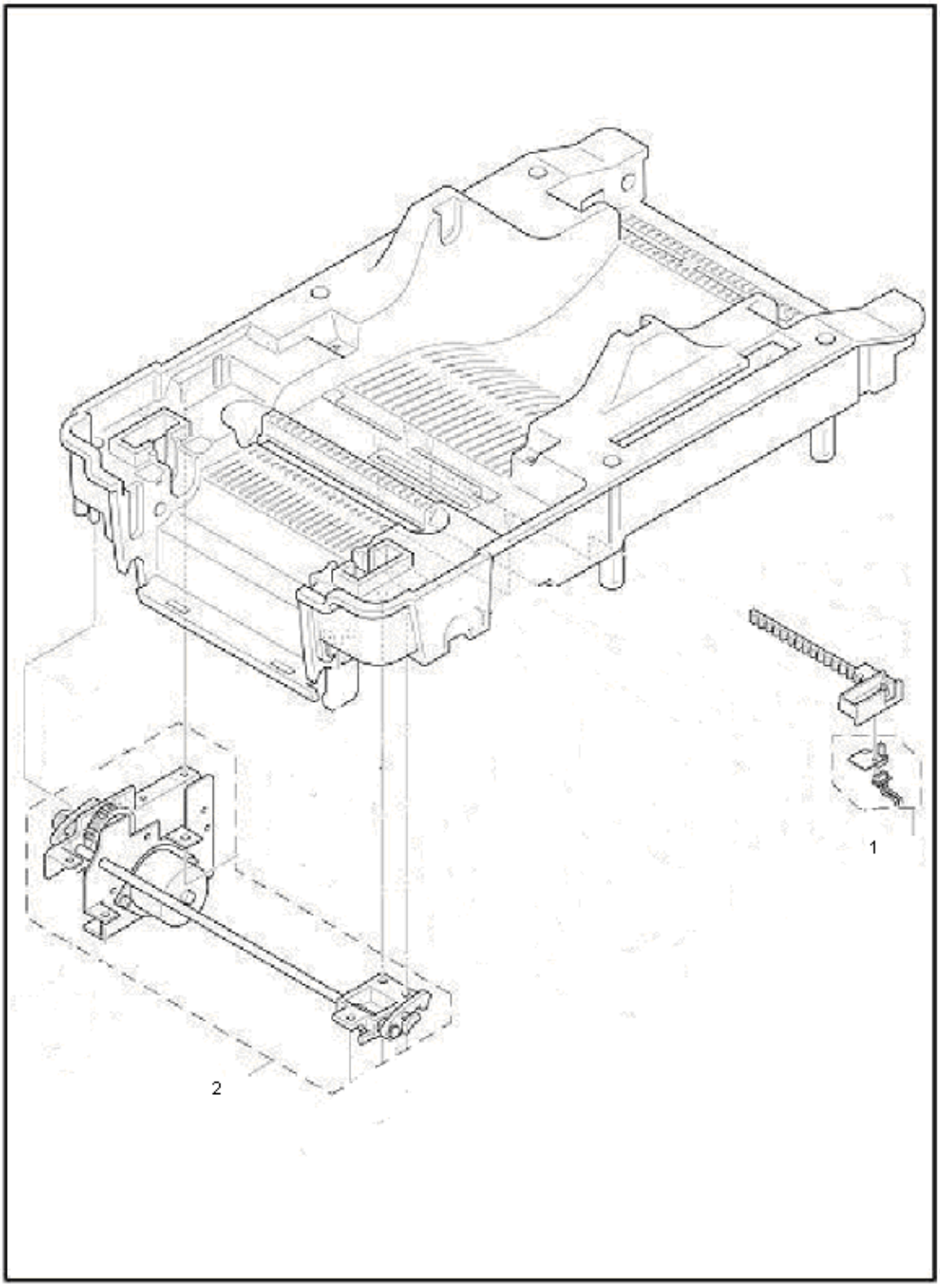
Item	Part No.	Description	Remark	Spare Parts
1	98-0130019-10LF	Ribbon supply spindle ass'y		



8.10 Lower Inner Cover - Bottom

Item	Part No.	Description	Remark	Spare Parts
1	98-0250023-10LF	Gap sensor (Transmitter) PCB ass'y		
2	98-0250022-00LF	Stepping motor ass'y (Including stepping motor) for 203 dpi		
	98-0270001-00LF	Stepping motor ass'y (Including stepping motor) for 300 dpi		

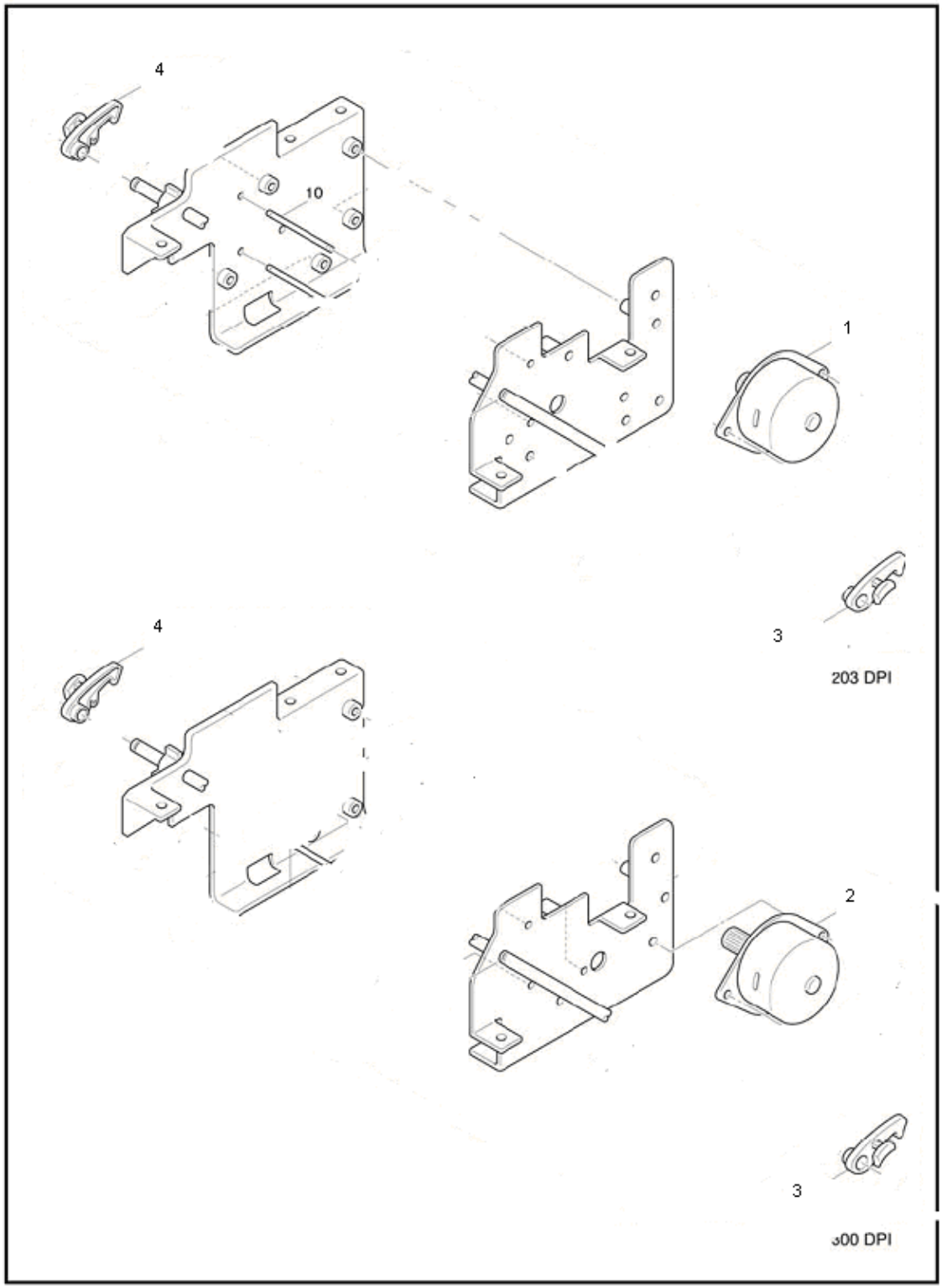
8.11 Lower Inner Cover - Bottom drawing



8.12 Stepping Motor Assembly

Item	Part No.	Description	Remark	Spare Parts
1	65-0030006-00LF	Stepping motor with 15 gear (for 203 dpi)		
2	65-0010010-00LF	Stepping motor with 15 gear (for 300 dpi)		
3	30-0250030-32LF	Top cover open lever		
4	30-0250029-32LF	Top cover open lever		

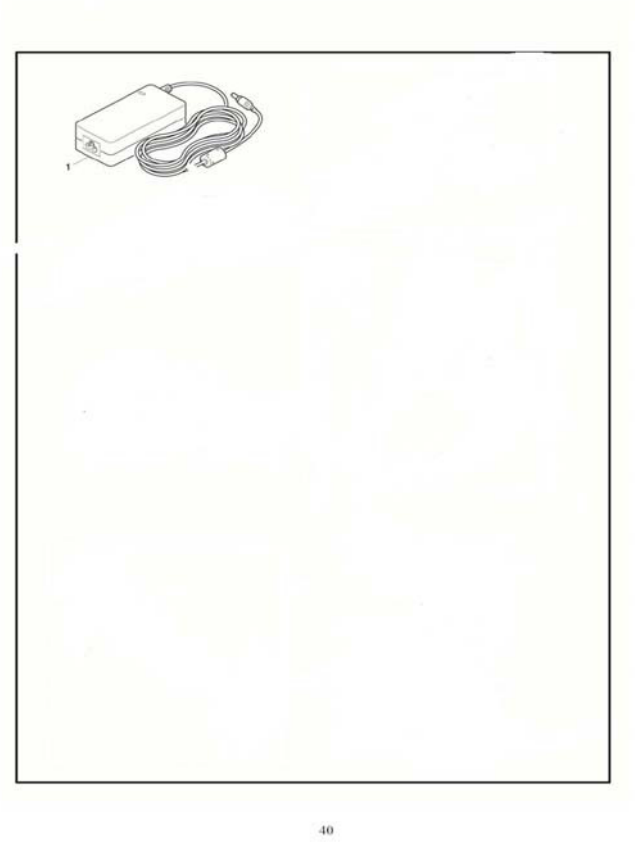
8.13 Stepping Motor Assembly drawing



8.14 Option and accessories

Item	Part No.	Description	Remark	Spare Parts
1	62-0010017-03LF	Power supply/CEC	Standard	

8.15 Option and accessories drawing



UPDATE HISTORY

Date	Content	Editor
6/06/08	First Draft Version	T.Holland
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